Bullying and victimization in schools in India

Thakkar, N.

Bullying and Victimization in Schools in India

Niharika Thakkar

Bullying and Victimization in Schools in India

Proefschrift

ter verkrijging van
de graad van doctor aan de Universiteit Leiden,
op gezag van rector magnificus prof.dr.ir. H. Bijl,
volgens besluit van het college voor promoties
te verdedigen op dinsdag 21 december 2021
klokke 16:15 uur

door

Niharika Thakkar
geboren te Indore, India
in 1988

Promotor
Prof. dr. P.H. Vedder

Co-promotor
Dr. M. van Geel

Promotiecommissie
Prof. dr. P.F. Wouters
Prof. dr. L.R.A. Alink
Prof. dr. A. van Harmelen
Prof. dr. B. Orobio de Castro (Universiteit van Amsterdam)
Prof. dr. M. Fekkes (Universiteit van Amsterdam)

Table of Contents

CHAPTER ONE

General Introduction

GENERAL INTRODUCTION

This thesis is about bullying behaviors in India. Olweus (1993) defines bullying as an act of repetitive physical or psychological aggression by an individual, or a group, over another. A principle feature that is also part of the definition is the recognition that there is an imbalance of power between the perpetrator and the victim, where the aggressor is generally more powerful than the victim (Olweus, 1997; Thornberg, 2015). This imbalance of power can be studied under the light of within-person (individual) traits, in relation to social contexts that create dissimilarities between-persons (group dynamics) (Rigby, 2004). It also can be studied focusing on the interaction between the person characteristics and contextual characteristics.

Traditional theories for understanding bullying and victimization in the classroom have focused on the individual level attributes that lead to bullying behavior (Olweus, 1993; Sutton et al., 2001). For instance, a bully has been characterized as one who is aggressive and destructive, and asserts dominance over others (Salmivalli & Peets, 2009), whereas a victim is one who is passive, submissive, or weak (Smokowski & Kopasz, 2005). However, besides individual-level attributes, past research has also indicated a growing need to study bullying in relation to a broader socio-cultural context (Jansen et al., 2016), where bullying behavior occurs as a result of different levels of power that exist within social groups (Rigby, 2004).

The need for understanding bullying behaviors through a contextual perspective is in line with Bronfenbrenner's bio-ecological model (Bronfenbrenner, 2005). This model suggests that symbiotic layers of systems exist, like that of an individual's personality that is embedded within their school climate (microsystem). These are further layered within cultural and societal norms, and reciprocally influence and co-construct each other through a mutual exchange between the interlinked layers.

Little attention, however, has been given to the understanding of these dynamics with respect to bullying behaviors (Rigby, 2004; Jansen et al., 2016), particularly so in India (Smith et al., 2018).

Expanding on context, below we present a conceptual and theoretical framework to explore and understand socio-cultural components of India, and then examine its association with bullying and victimization in school-going adolescents given the contextual reference.

The Indian Context

In contrast to the relative abundance of studies on bullying in Western countries, there is a paucity of research on the topic of bullying from India. India is a vast country, comprising 29 states and seven union territories. It is the second most populous country in the world that accommodates an adolescent population of nearly 236 million, approximately 36% of the world's youth population (Census, 2011). While Hindi is the national language, there are 22 other officially recognized languages (Census, 2011), with distinct scripts and literature, and multiple dialects to add to the heterogeneity. Furthermore, India celebrates multi-religious diversity (Ganguly, 2003), but also struggles with a deep-rooted caste system (Deshpande, 2001; Nambissan, 2009). To illustrate, we expand on some aspects of caste, religion, and cultural norms and attitudes in India below.

Although casteism in India has been banned by the India constitution, it continues to be an important factor of social identity in India (Sharma, 2012). The caste-based system in India is believed to have historically stemmed approximately 1500 years ago, from Laws of Manu where individuals were classified into separate *Varnas* or "Castes", based on their *dharma* or obligatory family occupation/profession. The four original *Varnas* were: *Brahman*- priests, *Kshatriya*- warriors, *Vaishya*- traders, and *Shudras*- menial jobs, e.g., sweepers (Deshpande, 2001). Although the system may have been

formed initially as discrete and mutually exclusive 'occupation-specific categories', the caste system created hierarchies and evolved into a rank-order system during the British colonial rule (Sharma, 2012) with a distance between the "upper" caste, being the Brahmans, and "lower" caste, being the Shudras. Furthermore, a connotation of "pure" and "polluted" came to be assigned to these castes over time, where higher caste individuals were considered purer (both physically as well as spiritually), whereas the lower castes were considered more polluted (Gupta, 2000). For example, the custom of "Untouchability" existed, where lower caste individuals who were scavengers, sweepers, drain cleaners or performed other menial or "dirty" labor, were considered unhygienic and impure. "Touching" a lower-caste person would "pollute" the dharma (*dharma-brashth*) of a higher caste individual. Higher caste individuals would then have to take a bath and pray, to "cleanse" them self of the impurity (Gupta, 2000). Practices like having separate water facilities or wells for the *untouchables*, or not allowing them in temples to avoid pollution of the sacred place, prevailed in the society. Additionally, there existed sub-castes subsumed under the four major castes, and discrimination and exclusiveness *within* sub-groups was common practice (Deshpande, 2000). Around the time of India's Independence in 1947, mass scale movements to end the caste system were endeavored, whereby the affirmative action program came into existence - a system of "reservation", where 22.5% of all government jobs, electoral constituency, or educational seats were reserved for individual from lower castes (Deshpande, 2000). With this, the caste system was collapsed into "General" caste, or "scheduled" caste and tribe, or "other backward class" (OBC) categories instead of the previous hierarchical classification. The constitution of India written at the time of Independence included this program, such that (broadly) caste-based segregations was banished and deemed a punishable offense, and- the "scheduled" (or other backward) castes and tribes in India would have reserved benefits to compensate for the discrimination over the years that socially predisposed them to future positions of disadvantage, as compared

to higher caste families (Deshpande, 2001). Nevertheless, generations of division and inequality, that had been deep-rooted in the Indian society (Nambissan, 2009), left a *residual* structural distance and angst between individuals from lower and upper caste. Upper caste individuals (now, "General" caste) argue that the reservation system leads to unfair discrimination and benefits several privileges to the lower caste individuals (now, scheduled caste, tribe, or other backward class) (Deshpande, 2001). Even today, parents from upper caste are uncomfortable when their children come in close contact with lower caste peers, let alone play with them. Even teachers at school are prejudiced against lower caste students while showing favoritism towards higher caste students (Neelakandan & Patil, 2012). Given this structural distance between people of different castes, bullying and aggression between, and within, people of different castes is a historically and normatively acknowledged part of the society in India (Jaishankar, 2009).

While caste presents a unique challenge through hierarchical structures in India, the diversity of India with respect to religion also adds to groupism and imbalance of power. Religious bullying is a normatively accepted and habituated practice in India (Erum, 2018; Campbell et al., 2018). For example, Sikh children, who wear turbans, are disproportionately bullied in schools on account of their appearance with jokes implicating that they are slow-witted (Froystad, 2013), thus, rendering Sikh students more vulnerable to being bullied in schools. Additionally, there exists an ideological and cultural distance between Hindus and Muslims in India, where each has a separate social identity from the other (Froystad, 2013), a view indoctrinated among children as well. Consequently, Hindu children commonly bully Muslim children (Erum, 2018), and vice versa, reflecting how broad socio-cultural, religious inclusion and exclusion norms in India shape interaction between peers. Erum (2018) indicates that in cases of religious bullying, children "learn to cope with it on their own", while parents and teachers dismiss it as "harmless banter" and thus most incidents go unreported.

It follows an acquiescence attitude regarding bullying among students, i.e., there is an apathetic acceptance of cultural divides, resulting in a failure to recognize and acknowledge bullying behavior and a reluctance to act upon it (Campbell et al., 2018), thereby influencing interpersonal dynamics and bullying behaviors in class. Such religious divides, attitudes, and practices in India may play a role in normalizing bullying behavior in classrooms, making it a part of a youth's identity and daily life experiences.

The diversity, population density, combined with disparities and inequalities co-existing in India between cultures and also within the sub-groups of particular cultures, have been recognized as unique to the Indian setting (Panda & Gupta, 2004). Thus, it is questionable to assume homogeneity in culture within India, let alone, consider the Indian culture congruent to high-income western countries, where most research on bullying comes from. The hierarchies in India drive social behavior over and above individual characteristics and play a role in creating power imbalances among adolescents, a factor that is considered a precursor to victimization (Olweus, 1997). Furthermore, Prakash (2003) highlights that India, being a collectivistic society recognizes an individual *not* based on their personal characteristics or achievements, but on the context of the individual like his/her family, caste, place, or institution. This notion is in line with the contextual-development perspective (Chen & French, 2008) that suggests that in collectivistic countries like India, context is more likely to influence evaluations of socially acceptable behavior and experiences, rather than individual attributes.

Given the aforementioned historically established and long-standing cultural divides, and the general lack of indigenous bullying research in India, it is crucial that bullying be studied specifically in India. Bullying and its consequences have been recognized in India, and a growing need to examine the factors associated with bullying in school has been expressed (Khatri & Kupersmidt, 2003; Pells et al., 2016). Reports

indicate that not only is bullying sizably prevalent in India (Nguyen et al., 2017; Ramya & Kulkarni, 2011), but also the reasons behind bullying in India could be attributed to the socio-cultural inequalities in caste, religion, SES, or skin color (Srisiva et al., 2013). The second chapter to this thesis presents a systematic review of past literature on bullying from India.

Systematic Review

Scientifically, among the preliminary steps to conducting research, one requirement is an initial thorough review of past literature (Petticrew & Roberts, 2006). Given the diversity of India, past literature has led to uncertain or inconsistent answers for prevalence estimates of bullying behaviors, risk-factors, consequences, or interventions (Malhi et al., 2015; Nguyen et al., 2017; Ramya & Kulkarni, 2011), signaling towards a need to review and synthesize all available evidence in these domains. This thesis includes a systematic review process following guidelines as provided by Arksey and O'Malley (2005) to perform a research synthesis of bullying and victimization behaviors in India. We draw attention to relevant scientifically sound past research, chiefly focusing on the (a) methodological characteristics of included studies, (b) prevalence estimates of bullying behavior, (c) forms of bullying, (d) risk factors, and (e) consequences of bullying in India. Through this chapter, we also specifically examine the psychometric properties of the instruments adopted in the included studies, as well as methodological characteristics including design and data collection, sample size and sampling procedures of the included studies, and characteristics of bullying behavior distinctive to the Indian context.

The influence of systematic reviews has increasingly expanded as potential users have become more familiar with this approach of dealing with the information mountain, thus refining large amounts of research information into a manageable form (Petticrew & Roberts, 2006). Furthermore, another benefit of this method for

the researcher lies in the potential to allow designing subsequent steps to a study, or formulate hypotheses in due course, through a transparent and potentially unbiased foundation by collating all relevant scientifically sound research, rather than single studies that could be screened selectively to fit a chosen directional theory (Aromataris & Pearson, 2014). Additionally, systematic reviews allow future researchers with the ease of replicability of the study (Egger et al., 2001), thereby providing not only a formal summary of available information, but also a basis for the next pool of researchers from India to use chapter 2 of this dissertation as a stepping stone to further their knowledge in the field of bullying behaviors.

General Method of Empirical Chapters in the Current Study

The chapters presented in this thesis share an underlying theme of highlighting bullying and victimization behaviors among school-going adolescents in India. However, multiple methodological improvements in the empirical chapters 3, 4, and 5 in the present dissertation add value to this area of research as compared to earlier studies from India as well as globally.

Longitudinal Research

Of the 37 studies that were included in the systematic review in the present dissertation, only two were longitudinal studies on the topic of bullying and victimization in India; one by Nguyen et al. (2017), and the second one is a study published in this thesis (Chapter 3). The other, 35 studies were cross-sectional. Cross-sectional studies can establish adolescents' functioning at a specific time point and investigate which characteristics or contexts are associated with particular bullying behaviors and outcomes at that time point. Cross-sectional designs cannot examine change, and predictors for change, thus rendering ineffective in assessing risk factors that precede bullying behaviors, or consequences that follow them, in a classroom environment. Longitudinal studies help disentangle antecedents and consequents, to estimate the

inter-individual variability in intra-individual (or within-person) patterns of change (Curran et al., 2010), allowing investigations of the sequence of occurrence of bullying with its risks and outcomes. The present study allows for longitudinal observations. Data presented in this dissertation was collected over three time-points in a school year, with a gap of three months between each wave of data collection.

Multiple Informant Approach

Self-reports are frequently used in the study of bullying and victimization, because it is an easily applied and relatively efficient method for collecting information about personal experiences (McDonald, 2008). However, in combination with other self-reports, self-reported measures of bullying may be confounded because of shared method variance that may cause the effect sizes in such studies to be inflated (Hawker & Boulton, 2000). Shared method variance refers to the exaggeration in correlation between two constructs when they are measured by the same method, and is one of the most common limitations in behavioral research (Podsakoff et al., 2003). Van Geel et al. (2016), in addition, show that in studies on bullying behaviors, peer-reports have been underused. In the present study, the constructs of bullying and victimization are measured using peer-reports as well as self-reports, assuring better validity of the constructs measured. Another key advantage of peer-reports is that scores are based on multiple informants, thus decreasing measurement error and providing a more reliable result (Cornell & Bandyopadhyay, 2009). Salmivalli et al. (1996) in their study on bullying as a group process, reported that peer-estimation procedures are better identifiers of victims as compared to self-estimation procedures. They argued that victims tend to deny their situation in self-reports, owing to a "self-serving attribution bias": individuals make attributions that preserve their self-perceptions and protect their self-esteem. Besides, with self-rating procedures there is a chance that adolescents may be hesitant in reporting their aggressive behavior due to cultural disapproval or the negative connotations that come along with being labeled a "bully"

(Salmivalli et al., 1996). Also, the risk of potential punitive repercussions may play a role (Branson & Cornell, 2009). Contrastingly, adolescents may also be tempted to scale up or overestimate their good behavior in self-reports to indulge in social desirability and be recognized for prosocial "positive" traits (Salmivalli et al., 1996). These limitations of self-reports and the advantages of peer-reports on bullying promoted the simultaneous use of self-reports and peer-reports in the study of bullying in the present research.

Psychopathy and Bullying

Following the systematic review, the focus turns towards socio-cultural factors as well as individual attributes that contribute towards bullying behaviors, in chapter 3. The intention behind bullying is recognized by studies as an individual's need to assert dominance among peers, and to enjoy social standing and popularity within the classroom (Salmivalli & Peets, 2009), driven by status goals and a quest for power and aggression. Fanti and Kimonis (2013) suggest that the differential associations between specific dimensions of psychopathy and bullying versus victimization could be attributed to youth characteristics, where impulsive adolescents are more prone to hasty decisions and actions that places them at risk for harm, targets of dominance and easy victims, whereas adolescents who are characterized by narcissistic tendencies like social dominance, entitlement, and willingness to exploit others are more likely to engage in bullying perpetration. Psychopathy in the field of bullying and youth can be studied as a three-dimensional approach that is characterized by traits of narcissism, callous-unemotionality (CU) and impulsivity (Van Baardewijk et al., 2010). Narcissism refers to a grandiose sense of self-worth, dishonest or superficial charm and manipulation for personal gain. Callous-unemotionality (CU) comprises of traits of callousness, unemotionality and lack of remorse and empathy, while impulsivity concerns irresponsible and thrill-seeking behavior (Van Baardewijk et al., 2010). We thus investigate whether the dimensions of psychopathy contribute unique variance

in predicting bullying and victimization cross-sectionally as well as longitudinally. We also examine whether psychopathy dimensions differentiate between roles in bullying (i.e., bully, victim, bully victim, and uninvolved group). Global research has established that bullying is related to acute psychological and physical difficulties for all persons involved: victims, bullies, and observers, with even worse consequences observed among bully-victims, i.e., adolescents who both bully others and are bullied by others (Cook et al., 2010), calling attention to this area of research.

In this chapter, we also study if the sociodemographic constructs of age, SES, caste, and religion present unique strength in predicting an individual's bullying behavior, thereby investigating the cultural interference (Charak & Koot, 2015) in the associations between adolescent's personality and bullying roles. Furthermore, inconsistent reports from past studies indicate a conflicting gender component, where some studies note a higher prevalence of bullying perpetration among boys (Nguyen et al., 2017), whereas others report no association between gender and bullying roles (Nambiar et al., 2020). Given this, we also include gender as a covariate in this study.

Body Mass Index and Bullying Victimization

Chapter 3 on the associations between individuals' attributes and cultural constructs with bullying behaviors can be seen as a study bringing the context to the fore. The next chapter, chapter 4, presents a more structural perspective. It examines a transactional model of influence between the Body Mass Index (BMI) of an individual and victimization experiences. Across the world, there has been an increase in the prevalence of obesity among school-going children (Li et al., 2020; WHO, 2020). Once considered a challenge among developed and affluent nations, obesity and overweight have today turned into a global epidemic where it is becoming more common among developing countries like India as well (Yang et al., 2019). Global research suggests that being obese or overweight among youth is associated with a torrent of adverse

physical, psychosocial, and psychological consequences (Li et al., 2020). Past research has shown concurrent associations between adolescent's body mass index (BMI) and classroom bullying victimization experiences (Waasdorp et al., 2018), however, it remains unclear whether an increased BMI leads to more experiences of victimization or whether victimization experiences, on the contrary, increase the likelihood of weight gain (Adams & Bukowski, 2008; Lee & Vaillancourt, 2018). Chapter 4 goes beyond uni- and bi-directional effects of BMI and victimization, and investigates a reciprocal-effect (Sameroff, 2009). We study whether an increased BMI predicts victimization experiences over time, which in turn predicts further increase in BMI in a circular capacity, and vice versa. The premise of this study follows the concept that associations between individual attributes change, maintain, and then change again depending on complex interactions and interdependence between individuals, their experiences, and their social environment (Bronfenbrenner, 2005; Sameroff, 2009). The study exemplifies that simple predictive formulations focusing entirely on the context of variables do not always help determine the dynamism or the structure of the relationships in social sciences. Given which, transactional models are of significant importance to locate the continuity and directionality of the recursive processes under observation (Meunier et al., 2010), in this case, bullying behaviors. Thus, this chapter seeks to extend existing research by focusing on cross-lagged, recursive, influences of BMI and victimization experiences in a longitudinal framework to detect subtle as well as complex concurrent, uni-directional, and bi-directional associations within individuals as well as between adolescents within a classroom.

Socio-economic Status (SES) within Classroom and Self-perceptions of SES

As stated earlier, India is a country of stark contrasts and inequalities (Sinha et al., 2010), and this is particularly evident in the distance between the high and low socio-economic status of India. This inequality in economic status influences customs

and practices of child-care and development, that consequently affect interactions between children in the school environment (Bapat, 2016). For example, children from lower SES are expected to assist in chores at home like cooking, cleaning, or filling water for its use at home from the closest water-pump/well/facility, because a continuous running supply of water is usually not accessible to the low-income households (Nambissan, 2009). Likewise, materialistic resources like electric supply at home, hygiene and sanitation, cars, and internet or technology access are also unequally available to children, based on the family's SES in India. Furthermore, circumstantial differences in daily lives of youth due to SES inequality, dispense some groups of children at positions of responsibility of bringing money into the house by taking up paid labor jobs (Bapat, 2016), while the economically content youth focus on academic excellence, thus affecting school attendance, academic competency, and interpersonal relationship among youth within the class environment. It follows that material wealth and resources are indicators of the *context* of the youth, which work favorably or unfavorably in their stride, and lead to structural group dynamics that may be precursors to bullying and victimization. An illustration of this is noted by Nambissan (2009), who reports that children from a particular SES tend to socialize among the same SES class. For instance, children who come from the "basti" (slums) are friends with the other *basti* girls alone, while girls who reside in "colony" (indicating higher income households) tend to connect with other *colony* girls. Furthermore, "colony" people would sit in the front rows in a classroom and be labeled as more "*hoshiyaar*" (intelligent) by the teachers whereas "basti" youth would sit at the back. One may assume that these inequalities and dissimilarities, that create a power imbalance between groups, influence peer interaction in the classroom environment in India. Chapter 5 presents an elaborate view into the dynamics of SES and the context of that SES status within classrooms.

After chapters 2 to 5 this thesis concludes with a general discussion. It presents

a summary of results and key reflections on the findings from the preceding chapters. We close with limitations of the studies reported in this dissertation, and discuss implications as well as directions for future research.

CHAPTER TWO

A Systematic Review of Bullying and Victimization among Adolescents in India

Published as

Thakkar, N., van Geel, M., & Vedder, P. (2020). A Systematic Review of Bullying and Victimization Among Adolescents in India. *International Journal of Bullying Prevention*, 1-17. https://doi.org/10.1007/s42380-020-00081-4

ABSTRACT

This study provides a systematic review of literature from India on traditional bullying and victimization among school-going adolescents. A search of bibliographic electronic databases PsycINFO, MEDLINE, ERIC, Web of Science and PubMed was performed in May 2020. Thirty-seven studies were included in the review. For each study included, the following specifics were examined: (a) methodological characteristics, (b) prevalence estimates of bullying behavior, (c) forms of bullying, (d) risk factors, and (e) consequences of bullying. It was found that bullying happens in India, and some risk factors for bullying and victimization in India are typical to the Indian context. In addition, bullying in India is associated with adverse consequences for both the aggressor and the victim. Many studies on bullying from India should be interpreted cautiously because of problems with data collection processes, instrumentation, and presentation of the findings. Cross-cultural comparisons for prevalence estimates, and longitudinal studies to examine the direction of possible influence between bullying and its correlates need to be conducted, to cater to the large adolescent population of India.

Keywords: Bullying; Victimization; India; Systematic review; Adolescent

INTRODUCTION

Bullying is an intentional and repetitive act of physical or psychological aggression, where the aggressor is more powerful than the victim (Olweus, 1993). Meta-analytic studies have confirmed the marked prevalence of and risk factors associated with bullying perpetration and victimization among children and adolescents in school (Modecki et al., 2014). In a recent survey conducted in 79 countries with over 300,000 participants, 30% of the adolescent respondents reported that they had been victims of bullying in the past 30 days (Elgar et al., 2015). In India, research on bullying is scarce, certainly in proportion to its population size, as well as socio-cultural diversity (Milfont & Fisher, 2010; Smith et al., 2018). The vast adolescent population provides ample opportunity and resources to further our understanding in the field of bullying. The disparities seen in India in terms of socio-cultural factors such as SES, religion, caste, gender, and color, which have been recognized as typical to the Indian context (Panda & Gupta, 2004), may aid in breeding an imbalance of power, an underlying element of bullying (Olweus, 1993). Moreover, given the diverse socio-cultural context of India, and its structural incongruence with western cultures (Charak & Koot, 2015), literature from western countries may not be generalizable to the Indian population, thus requiring scientific attention to examine the role of these factors specifically in India (Smith et al., 2018).

Through the current review, we aim to provide researchers a notion of challenges that need to be addressed in future studies on bullying and victimization in India. Systematic reviews are of importance, because they closely follow a scientific and step-by-step approach, with an aim of limiting systematic errors or bias, and particularly seek to identify, evaluate, and synthesize all relevant studies to elucidate knowledge and advanced understanding of the topic at hand (Petticrew & Roberts, 2008). The

present systematic review focuses on traditional bullying and victimization among adolescents in schools in India, highlighting the following specifics: (a) methodological characteristics of included studies, (b) prevalence estimates of bullying behavior, (c) forms of bullying, (d) risk factors, and (e) consequences of bullying. Specifically, we examine the psychometric properties of the instruments adopted in the included studies from India, as well as methodological characteristics including design and data collection, sample size and sampling procedures of the included studies, and characteristics of bullying behavior distinctive to the Indian context.

METHOD

Guidelines provided by Arksey and O'Malley (2005) for conducting systematic reviews were followed in the present study. A systematic search of bibliographic electronic databases PsycINFO, MEDLINE, ERIC, Web of Science and PubMed was performed in May 2020. The following terms formed the basis of the search strategy: ''bullying'' OR ''peer victim*'' OR ''bullied'' OR ''bully'' OR ''school harassment*'' OR ''ragging'' OR ''school violence*'' AND ''India'' OR ''Indian'' OR ''Hindi''.

No date limit was set for the search. Our search was not limited to published articles; book chapters, dissertations, unpublished articles, and posters were also eligible. A flow diagram of the search results is provided in Figure 1. Only studies that focused on bullying by peers and the resulting victimization at school were included. Articles on online bullying or cyberbullying were excluded. There were too few studies on cyberbullying in India to provide a meaningful analysis, especially when such an analysis should also deal with recent concerns about cyberbullying studies (e.g., Wolke, Lee, & Guy, 2017). Non-empirical studies that did not include quantifiable data (for instance, book reviews) were excluded as we focus on only empirical research in the current review. Six studies used interviews to gather data; for instance, Kshirsagar

et al., 2007 used Olweus's (1996) pre-tested semi-structure interview to collect data on bullying and victimization in their study. The answers to these interviews were quantified and used in statistical analyses, and therefore we included the articles in the current review. Studies on Indian children who live outside of India, were excluded.

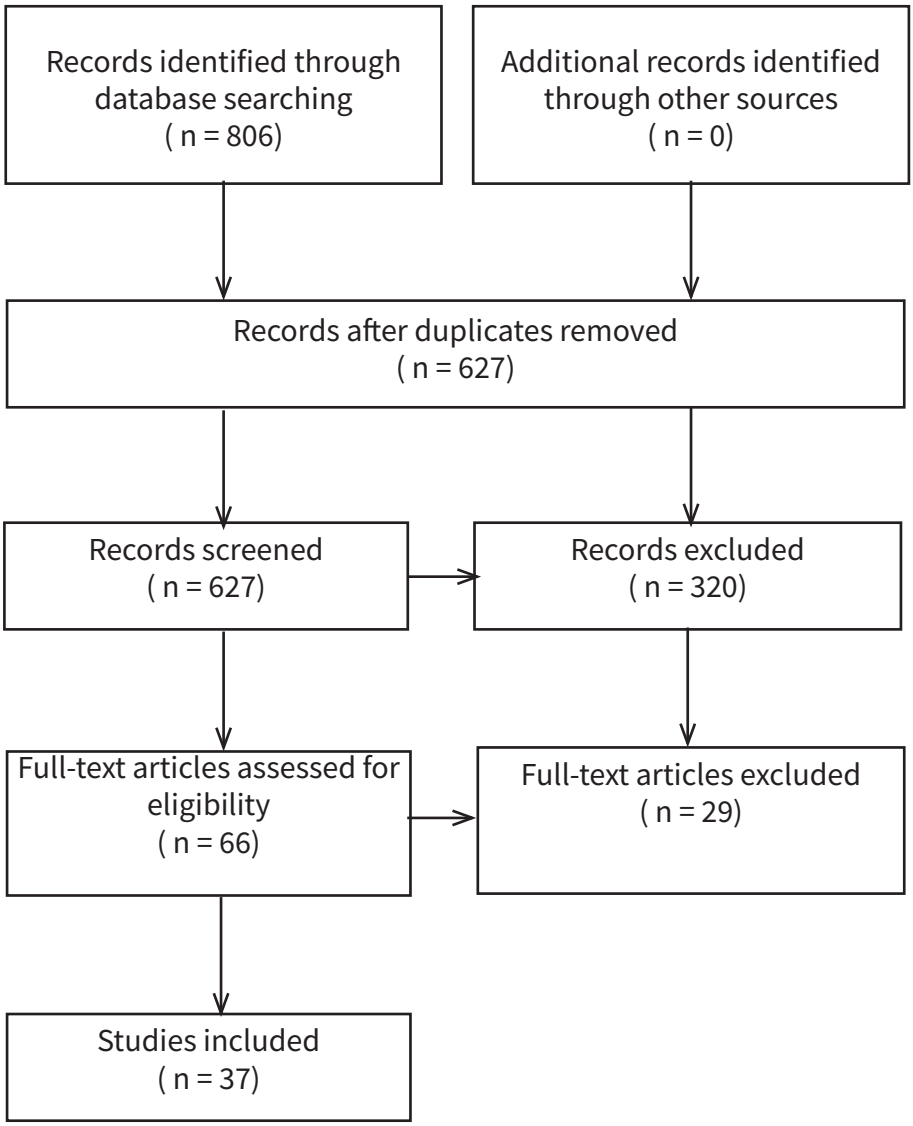


Figure 2.1. *Search results for the systematic review*

Because we focused on adolescents in school, the age of students in included studies should range between 10 to 19 years. For studies on students whose ages only partly overlapped with this intended range we applied the rule that the average age should fall within the intended range and the lowest and highest age should be within 2 years of the intended age limits. Two studies did not provide a definitive age range of the participants included in their study (Patel et al., 2017; Schafer et al., 2018), however, the studies indicate that the participants were from grade 8 to 10 (who are typically 12 to 15 years old), thereby qualifying for inclusion in the present review. Three studies did not provide the mean age of the participants in their study though they specify the age range of the participants (Kshirsagar et al., 2007; Malik & Mehta, 2016; Ramya & Kulkarni, 2011), and because the lower limit or higher limit of the provided age range in these three study fell within 2 years of 11-19 years old, we have included them in the present review. Eventually, 37 studies were included in the final review.

RESULTS

Methodological Characteristics of Included Studies

Design and Data Collection

Of the 37 studies that were included, two were longitudinal studies (Nguyen et al., 2017; Thakkar et al., 2020), two were experimental studies with pre- and post-test intervention designs (Sharma et al., 2020; Shinde et al., 2018; 2020), whereas the others were cross-sectional studies. Seven of the 37 studies used peer-reports, 21 studies used self-reports, two studies used both self- and peer report (Chakrabartty & Gupta, 2016; Thakkar et al., 2020), whereas six studies used structured or semi-structured interviews and open-ended questions to collect data on bullying and victimization (Kshirsagar et al., 2007; Malhi et al., 2014; 2015; Malik & Mehta, 2016; Munni & Malhi, 2006; Ramya &

Kulkarni, 2011). One study used a photo-story method (Skrzypiec et al., 2015), where participants were invited to use a photograph or picture to illustrate their opinions or experiences of bullying.

Psychometric Properties

Psychometric properties of the scales or interviewing approaches used in the studies have been reported in 22 of the 37 studies. Four studies reported the reliability and validity of the original scale (Malik & Mehta, 2016; Menon & Hannah-Fisher, 2019; Patel et al., 2017; Samanta et al., 2012), but did not report psychometric properties based on the Indian sample, while five studies reported neither the psychometric properties of the original scale nor its generalizability to the Indian sample (Kshirsagar et al., 2007; Maji et al., 2016; Sarkhel et al., 2006; Sharma et al., 2017; Sethi et al., 2019). Two studies used a scale developed by the authors of the study; however, psychometric properties were not reported (Kelly et al., 2016; Prakash et al., 2017). Four studies did not provide a clear description of the method of data collection, and the validity of the approach was not defined (Malhi et al., 2014; 2015; Munni & Malhi, 2006; Ramya & Kulkarni, 2011). Seven studies specified that the instrument used to assess bullying behavior was an English language questionnaire, while 10 studies used either existing translations or translations created by the authors of the study, of English scales into Indian regional languages. Two studies used English instruments and orally explained the translation in Punjabi (Lee et al., 2018) or translated the difficult words to Hindi (Malik & Mehta, 2016), and one study used English as well as Hindi language translations of the scales (Thakkar et al., 2020).

Sampling

Of the 37 studies, 25 studies used a convenience or purposive sampling approach to recruit participants. One study used a proportionate random sampling approach to

recruit participants (Kelly et al., 2016); one study used a two-stage cluster sampling approach (Swain et al., 2014); one used a multi-stage sampling design (Chakrabartty & Gupta, 2016); six studies reported using a random sampling method for selecting either schools or participants (Kshirsagar et al., 2007; Maji et al., 2016; Malik & Mehta, 2016; Nguyen et al., 2017; Ramya & Kulkarni, 2011; Sarkhel et al., 2006), but only one of them reported how the school sample was randomized (by draw of lots; Sethi et al., 2019). Two studies used a randomized control design to allocate participants to experimental or control groups, where Prakash et al. (2017) used a cluster randomized control design, and the intervention study by Shinde et al. (2018) used randomized and masked groups for each of three study groups. One study used a quasi-experimental design, where of the two participating schools, one was randomly assigned to the intervention group, and the other was assigned to the control group (Sharma et al., 2020). Of the 37 studies included in the review, 17 studies had a sample size of less than 300 participants, nine studies had a sample size of between 300 to 500 participants, whereas 11 studies had a sample size larger than 500 participants.

The articles widely differed in their statistical reporting practices, and therefore the amount of statistical information provided in the below sections and Table 1 varies per reported study. Time frames of bullying and victimization prevalence estimates are reported in the below sections if they were specified in the included studies. Percentages are rounded off without decimals.

Prevalence Studies

Eight studies focused on the prevalence of bullying in India, while 14 others provided descriptive statistics or percentages for sample participants that qualified as bullies or victims in their study. Of these, five studies provided the participants with a definition of bullying for peer nomination estimates of bullying and victimization

in their research (Goossens et al., 2018; Khatri & Kupersmidt, 1996; Lee et al., 2018; Skrzypiec et al., 2018; Thakkar et al., 2020). Studies from the same city or region in India were scarce, and reports inconsistent. We found that bullying perpetration estimates ranged from 7% (Thakkar et al., 2020) to 31% (Kshirsagar et al., 2007), and bullying victimization ranged from 9% (Thakkar et al., 2020) to 80% (Maji et al., 2016), across studies. For instance, Maji et al. (2016) found that only 38 of 273 adolescents were not bullied, resulting in a dominant 80% students qualifying as victims of bullying. Next to region differences in prevalence, estimates may be related to the reporter used. Kshirsagar et al. (2007) found higher prevalence rates for bullying for self-reports than for parent or guardian interviews, whereas Thakkar et al. (2020) found higher prevalence estimates for bullying and victimization for peer reports than for self-reports. Findings as regards prevalence and other findings or aspects reviewed of each study are reported in Table 1.

Forms of Bullying

It was observed that name-calling or using bad words were common forms of bullying observed among adolescents next to physical bullying. For instance, Kshirsagar et al. (2007), reported that the most common types of bullying were teasing and giving discriminatory or offensive labels and nick names to others. Similarly, Malhi et al. (2014) reported that 16% of their sample were victims of direct bullying or physical bullying and 34% were victims of name-calling. Skrzypiec et al. (2015) showed that caste-based bullying was reported by students and that for females, sexual harassment or 'eve-teasing' was a common occurrence.

Table 2.1. *Studies included in the systematic review*

Study (year of publication)	**City, State**	**Main variables of the study**	**Instrumentation**	**Participants**
Bowker, Markovic, Cogswell, and Raja (2012)	Surat, Gujarat	Social withdrawal, over and relational aggression, rejection, exclusion, victimization, and gender	Peer nominations	*N* = 194 (48% female); *M* age = 13.35 years
Chakrabartty and Gupta (2016)	Kolkota, and Hooghly, West Bengal	Testing validity of translated version of bully scale	Teacher reported each student as bully/non –bully; Peer Relations Questionnaire (Rigby and Slee, 1991)	*N* = 1147; *M* age = 13.06 years, *SD* = 1.137
Correia, Kamble, and Dalbert (2009)[1]	Not mentioned	Belief in a just world , school distress in victims, bullies and defenders, and gender	Peer Relations Questionnaire (Rigby and Slee, 1993)	*N* = 278 Indian sample; 43.9% female; Age range = 14 to 17 years, *M* age = 15.3, *SD* = 0.5
Donat, Umlauft, Dalbert, and Kamble (2012)	Same Indian sample as above	Belief in a just World, neuroticism, teacher justice, and bullying behavior	Peer Relations Questionnaire (Rigby and Slee, 1993)	Same as above

Bully/victim results	Research Findings
Overt aggression *M* = 0.00, *SD* = 0.90; Relational aggression *M* = 0.00, *SD* = 0.86; Rejection *M* = 0.00, *SD* = 1.00; Exclusion *M* = 0.00, *SD* = 0.90; Victimization *M* = 0.60, *SD* = 0.77	Overt aggression, relational aggression, and gender identified as moderators between various associations of social withdrawal and peer victimization
Identified as bullies by teachers *n* = 396	Factor analysis showed that only one factor was measured by all the response categories implying uni-dimensionality of the Bullying Scale even if data are collapsed to have various response categories
Bully *M* = 2.00, *SD* = 0.77; Victim *M* = 2.15; *SD* = 0.84; Defender *M* = 3.82, *SD* = 0.76	Higher belief in just world is associated with lower school distress independent of bully status for both genders
Bullying behavior *M* = 2.00, *SD* = 0.77	Neuroticism positively correlated with bullying behavior; Boys are more likely to perpetrate bullying than girls

Study (year of publication)	**City, State**	**Main variables of the study**	**Instrumentation**	**Participants**
Goossens et al. (2018)	Patiala, Punjab, and Chidambaram, Tamil Nadu	Bullying, defending, and victimization	Participant Role Questionnaire (Salmivalli et al., 1996)	Punjab *N* = 480, 69.4% boys; *M* age = 14.2, *SD* = 1.0); Tamil Nadu *N* = 815 (56.8% boys; *M* age = 13.6, *SD* = 1.1
Gothwal, Sumalini, Irfan, Giridhar, and Bharani (2013)	Not mentioned	Psychometric properties of Olweus bully/victim questionnaire in visually impaired	Revised Olweus bully/victim questionnaire (Olweus, 1996)	*N* = 150, 69% male; *M* age = 11.6 years, *SD* = 2.2
Kelly, Krishna, and Bhabha (2016)	5 districts across the state of Rajasthan	Private schooling, caste, income, parental education, school infrastructure, peer bullying, and teacher violence	Peer harassment scale constructed by authors	*N* = 413, 100% females; *M* age = 18.8 years
Khatri and Kupersmidt (1996; 2003)[2]	Mandvi, Gujarat	Aggression, victimization, social relationships, caste, grade, and gender	Peer nominations	*N* = 229, 30% females; Grade 4, 6, 8 and 10; One English medium school, one Gujarati medium school

Bully/victim results	Research Findings
Bully *N* = 90 (7%), 71 boys (9%), 19 girls (4%); Defender *N* = 75 (6%), 43 boys (6%), 32 girls (6%); Victim *N* = 111 (9%), 90 boys (12%), 21 girls (4%)	Both bullying and defending were linked to dominance in the classroom, but bullies were not preferred, while defenders were. Victims were neither seen as dominant nor were they preferred.
-	Revised OBVQ is not a valid psychometric instrument to assess victimization and bullying among children with visual impairment
Peer harassment in private school *M* = 5.88; *SD* = 1.84; Peer harassment in government school *M* = 5.49, *SD* = 1.70; Peer harassment in other schools *M* = 5.89, *SD* = 1.53; Range = 3 to 15	'General' caste group experience lower harassment in primary and lower secondary school than their lower caste peers. Parental education, income, or switching schools is not associated with differences in peer bullying.
25% males and 10% females qualified as aggressors; 16% males and 0% females qualified as victims; 15% low caste and 8% high caste qualified as rejected; 13% low caste and 6% high caste qualified as victims	Males were significantly more likely to be victims than females; Low caste participants are more rejected and victimized than high caste students; No effect of gender or grade on victimization

Study (year of publication)	**City, State**	**Main variables of the study**	**Instrumentation**	**Participants**
Kshirsagar, Agarwal, and Bavdekar (2007)	Mumbai, Maharastra	Bullying prevalence	Olweus's (1996) pre-tested semi-structured interview	*N* = 500; 188 boys, 312 girls; Age range = 8 to 12 years
Lee et al. (2018)	Patiala, Punjab	Risk-taking, and bullying	Participant Role Questionnaire (Salmivalli et al., 1996)	*N* = 442 (60% boys); Age range = 11.25 to 16.10 years; *M* age = 13.76, *SD* = 0.98
Maji, Bhattacharya, and Ghosh (2016)	Ranchi, Jharkhand	Depression anxiety, stress, coping strategies, and bullying	Gatehouse bullying questionnaire (Bond et al., 2007)	*N* = 273; Age range = 10 to 16 years
Malhi, Bharti, and Sidhu (2014)	Chandigarh, Punjab	Bullying prevalence	Asked 4 questions to assess bullying and victimization	*N* = 209 (53.4% boys); Age range = 13 to 16 years; *M* age = 14.82, *SD* = 0.96

Bully/victim results	Research Findings
n = 157 (31%) self- reported bullying; Forms of bullying reported were teasing (*n* = 128), keeping names (*n* = 101), physical hurt (*n* = 25), use of bad words (*n* = 53,), spreading rumors (*n* = 9), threatening (*n* = 8), and isolating others (*n* = 2); 34% students from English schools and 31% students from vernacular medium (Marathi) schools ($p > 0.05$) reported bullying; Prevalence of bullying higher in co-educational schools than in girls' school	Feeling sad, preferring to stay alone and frequent tearing of clothes were almost exclusively noted in bullied children; Bullied children were more likely to report symptoms such as school phobia, vomiting and sleep disturbances
Bully *M* = 0.07, *SD* = 0.10; Follower *M* = 0.07, *SD* = 0.09; Victim *M* = 0.08, *SD* = 0.10; Outsider *M* = 0.04, *SD* = 0.04; Defender *M* = 0.05, *SD* = 0.04	Increased risk-taking during adolescence is associated with higher levels of both bullying and victimization; bullying and risk-taking appear to be more prevalent in India than in the Netherlands
n = 219 bullied and *n* = 38 were non-bullied	Bullied participants had higher levels of psychological problems like depression, anxiety, stress and poor coping strategies like catastrophizing, self-blame, blaming others and rumination
Prevalence of bullying = 53%; 13% were bullies, 19% were victims; 16% were victims of direct bullying or physical bullying, 34% victims of name-calling, 13% victims of rumor spreading, and 7% victims of forcibly money taken	Victims have low scores on self-concept; Bully-victim have higher risk of conduct problems, hyperactivity, and academic difficulties; Bullies- are better at academics, have high self-esteem, higher risk of hyperactivity and conduct problems; Boys are more likely to be bully-victims, girls are more likely to be victims

Study (year of publication)	**City, State**	**Main variables of the study**	**Instrumentation**	**Participants**
Malhi, Bhati, and Sidhu (2015)	Chandigarh, Punjab	Age, gender, SES, bullying, victimization, depression, emotional and behavioral problems	Questioned students about bullying and victimization	N= 376 (53.5 % boys); *M* age = 15.69, *SD* = 1.36
Malik and Mehta (2016)	Not specified	Bullying, anger, and self-esteem	Peer relations questionnaire (Rigby & Slee, 1993); Semi-structured interview of some students that were to identified be bullies	*N* = 137; Age range = 12 to 14 years
Menon and Hannah-Fisher (2019)	Delhi, New Delhi	Felt gender typicality, victimization, aggression, psychosocial adjustment	Reduced aggression/ victimization scale (Orpinas & Horne, 2006)	*N* = 296 (130 girls); *M* age = 12.73, *SD* = 0.84
Munni and Malhi (2006)	Chandigarh, Punjab	Violence exposure, bullying, gender, school performance, and adjustment	Anonymous self-report questionnaire and Interviews	*N* =1500 (47.4% female); Age range= 12 to 20 years, *M* age = 15 years, *SD* = 1.67; Grade 8 to 12

Bully/victim results	Research Findings
24% reported victimization overall; 8% reported physical bullying, 12% relational bullying, 4% victims reported both physical and relational bullying; More physical victimization in boys, more relational victimization in girls ($\chi^2 = 24.15$, $p = .000$); Average duration of physical and relational victimization was 1.24 years ($SD = 1.19$), and 1.17 years ($SD = 1.24$); Significant effect of SES on victimization ($\chi^2=18.94$, $p = 001$); Significant effect of age between physical and relational victimization ($\chi^2=19.74$, $p = .001$)	Victims of relational aggression are higher on depression and conduct problems; Victims of physical aggression are higher on peer problems; Low SES participants are higher on physical victimization; High SES participants are higher on relational victimization
45 students (25 boys) were found to be highly inclined to be bullies; Bully $M = 8.91$; Victim $M = 9.42$	Boys express anger more explicitly than girls; Self-esteem of bullies did not differ based on gender
Boys reported significantly higher scores than girls on victimization ($\beta = 0.27$, $p < 0.01$) and aggression ($\beta = 0.33$, $p < 0.01$). Boys M victimization = 1.54, $SD = 1.63$, M aggression = 1.16, $SD = 1.44$. Girls M victimization = 0.83, $SD = 1.24$, M aggression = 0.38, $SD = 0.84$.	For girls, felt pressure and an entity view of gender differences was associated with higher victimization, and work sexism was associated with higher victimization and aggression. For boys, an entity belief of gender differences was associated with higher aggression.
20% students reported bullying others; 8 out of 10 adolescents had witnessed someone being bullied in the past year; Girls were significantly more bullied than boys ($p < 0.05$); 60% students engaged in physical fights more than once per week	Significant violence exposure occurs in schools and bullying is also prevalent

Study (year of publication)	**City, State**	**Main variables of the study**	**Instrumentation**	**Participants**
Nambiar, Roopesh, Jangam, and Bhaskar (2019)	Bengaluru, Karnataka	Peer victimization, self-esteem, intellectual disability	The Multi-Dimensional Peer Victimization Scale (Mynard & Joseph, 2000)	*N* = 40 (15 girls); *M* age = 14.58 years, *SD* = 2.25; IQ scores between 50 and 85 (mild to borderline intellectual disability)
Narayanan and Betts (2014)	Coimbatore, Tamil Nadu	Bullying, victimization, resilience, and self-efficacy	Adolescent peer relations instrument (Parada, 2000)	*N* = 393 (191 males, 202 females); Age range = 14 to 20 years*; M* age = 15.88 years, *SD* = 0.64
Nguyen, Bradshaw, Townsend, and Bass (2017)[3]	Andhra Pradesh and Telangana states	Prevalence of bullying victimization, forms of victimization, gender, in urban or rural setting	Social and health assessment peer victimization scale (Ruchkin, Schwab-Stone, & Vermeiren, 2004)	*N* = 967 (49.3% male); *M* age = 15.0, *SD* = .3
Nguyen, Bradshaw, Townsend, and Bass (2019)	Same as above	Victimization and psychosocial outcomes	Same as above	Same as above

Bully/victim results	Research Findings
75% reported the presence of peer victimization (M = 13.98, SD = 12.83). Highest was verbal victimization (67.5%) with maximum being called names (57.5%), being sworn at (55.0%), being made fun of their appearance (60.0%) or being made fun of them (65.0%). Next was social manipulation (60%) in the form of being refused to be talked to (57.5%) or making others not talk to them (50.0%). Physical victimization (52.5%) was in the form of being hurt physically (50%).	Peer victimization was more common in regular schools as compared to special schools. No gender differences in peer victimization. Verbal victimization and social manipulation were significantly related to years of education of student. Self-esteem and peer victimization had a significant negative relationship.
Males engaged in significantly greater levels ($p < .001$, $\eta 2 = .105$.) bullying and victimization ($p < .001$, $\eta 2 = .112$) behaviors compared to females; Gender difference in physical bullying: $F(1, 391) = 43.63$, $p < .001$, $\eta 2 = .105$ (M male = 10.76, SD = 4.47; M female = 8.33, SD = 2.65); Gender difference in physical verbal bullying: F (1, 391) = 27.43, $p < .001$, $\eta 2 = .066$ (M male = 14.52, SD = 6.20; M female = 11.59, SD = 4.83); Gender difference in social bullying: F (1, 391) = 14.67, $p < .001$, $\eta 2 = .036$ (M male = 8.73, SD = 3.94; M female = 7.43, SD = 2.71)	Resilience mediated the relationship between bullying behaviors and self-efficacy in young men
M victimization = 13.4, SD = 4.4; 56% participants were bullied (boys = 58%; girls = 55%); Boys experienced more frequent victimization than girls ($\beta = 4.07$, $p = .002$); Urban youth experienced less frequent victimization than rural peers ($\beta = -3.23$, $p = .006$); Total model predicted a 1.15 point higher score for boys than girls ($p = .029$)	Most common victimization is having something forcibly taken while second most common is being punched/kicked/beaten
Same as above	At baseline, victimization associated with higher emotional difficulties, and lower subjective wellbeing. At follow-up, all associations had attenuated and were largely non-significant

Study (year of publication)	**City, State**	**Main variables of the study**	**Instrumentation**	**Participants**
Patel, Varma, Shah, Phatak, and Nimbalkar (2017)	Vadodra and Anand, Gujarat	Prevalence of bullying, age, gender, height and weight, scholastic performance, and number of friends	Peer interactions in primary school questionnaire (Tarshis & Huffman, 2007)	*N* = 1106, from 7th, 8th and 9th grade
Prakash et al., (2017)	Bijapur and Bagalkot, Karnataka	School drop-out, absenteeism, and bullying	Questionnaire constructed by authors	*N* = 2275 (100% girls); Age range = 11 to 18 years; Median age = 13 years
Pronk et al. (2016)	Patiala, Punjab	Bullying role behavior and peer group status	Participant Role Questionnaire (Salmivalli et al., 1996)	*N* = 480 (60.8% boys); *M* age = 13.8 years, *SD* = 12 months
Ramya and Kulkarni (2011)	Davangere, Karnataka	Bullying prevalence, psychological and psychosomatic health	Pre-tested questionnaire used for interviewing by authors	*N* = 500 (336 boys, 164 girls); Age range = 8 to 14 years

Bully/victim results	Research Findings
Overall bullying prevalence = 49%; 30 being bullies, and 30% being victims; Boys were more likely to be bullies (p = 0.03) as compared to girls; Students having less friends (p = 0.001), overweight/obese students (p = 0.02), and boys (p < 0.001) were more likely to be victims; Significant association between bullying behavior and poor academic performance	Victimized girls experience emotional and sensitive forms of bullying; Victimized boys experience higher physical and verbal bullying; Victims are higher on emotional problems, hyperactivity and peer problems
8% (n = 184) reported bullying environment	Bullying/harassment at school is associated with increased odds of school dropout and absenteeism
Bully M = 0.07, SD = 0.10; Follower M = 0.07, SD = 0.09; Victim M = 0.08, SD = 0.10; Outsider M = 0.04, SD = 0.04; Defender M = 0.05, SD= 0.04	Boys received more nominations for victim and outsider than girls
60% reported being bullied; 53% girls and 64% boys reported being bullied; Victimized by boys n = 220, by girls: n = 72; Types of bullying included being called names (n =175; 58%); Being made fun of appearance (n = 47; 16%); Being degraded (n = 46; 15%); Physical abuse (n = 38; 13%); Being isolated (n = 31; 10%); Snatching away things (n = 29; 10%); Complaining to the teacher (n = 25; 8%); Spreading rumors (n = 20; 7%); Blackmailing (n = 19; 6%); Making fun of one's family (n = 18; 6%).	Bullying was seen to be more prevalent among boys than girls; Only 65 (39%) parents knew that their children were being bullied; Bullied children were more likely to report symptoms such as headache, loose motions, fever and depression

Study (year of publication)	**City, State**	**Main variables of the study**	**Instrumentation**	**Participants**
Samanta, Mukherjee, Ghosh, and Dasgupta, (2012)	West Bengal	Prevalence of bullying, protective factors, mental health, and violence	Questionnaire constructed following guidelines of global school-based student health survey (UNICEF, 2001)	*N* = 199 (100% male); Age range= 13-15 years*; M* age urban = 14.1, *SD* = 0.87; M age rural = 15.32, SD = 0.96 year
Sarkhel, Sinha, Arora, and DeSarkar, (2006)	Kanke, Jharkhand	Prevalence of conduct disorder and its' subtypes, attention deficit hyperactivity disorder (ADHD), and bullying	Schedule for affective disorders and schizophrenia for school-age children-Present and lifetime version (K-SADS-PL, Kazdin, 1996)	*N* = 240; Age range = 10 to 15 year old
Schäfer et al. (2018)	Annamalai Nagar and Puducherry, Tamil Nadu	Participant roles in bullying-pro-bullying behavior and anti-bullying behavior	Participant Role Questionnaire (Salmivalli et al., 1996)	*N* = 911; Grade 8^{th}, 9^{th} and 10^{th}
Sethi, Setiya, and Kumar (2019)	Rohtak, Haryana	Prevalence of school bullying	Korean-Peer Nomination Inventory (Perry DG, Kusel, & Perry LC, 1988)	*N* = 370 (60.5% male); Age range = 12 to 15 years

Bully/victim results	Research Findings
Bullying in urban = 46.4%, rural= 17%; Fighting in urban = 53.8%, fighting in rural= 26.3%	Mental health- and violence-related issues are prevalent more among urban students that among rural students
Bullying *M* in children with conduct disorder = 2.90, *SD* = 0.30	Lying, bullying and cruelty to animals are most commonly found symptoms in conduct disorder children
Girls nominate boys more on pro-bullying behaviors than on anti-bullying behaviors; Boys get significantly more across-gender nominations on pro-bullying behaviors (boys pro-bullying behavior μ = 0.53; *SD* = 0.16; boys anti-bullying behavior μ = 0.66; SD = 0.16) / $t(202.76) = 3.39$, $p < 0.01$; d = 0.40); For girls no such difference is found	Both genders nominate primarily within sex; No significant gender difference can be found in pro-bullying and anti-bullying behaviors
43% of school children were involved in bullying, victims = 19%, perpetrators = 18% and victim-perpetrators = 6%; Boys outnumbered girls in all the three categories; 68% ($p < .001$) of the perpetrators belonged to high-income families; Fathers of perpetrators were more likely to have completed college than those of non-perpetrators ($p = 0.043$)	Caste and SES contributed to distinguishing students who were involved in bullying behavior from those who were not

Study (year of publication)	**City, State**	**Main variables of the study**	**Instrumentation**	**Participants**
Sharma, Kishore, Sharma, and Duggal (2017)	Delhi, New Delhi	Aggression, school bullying, cyber bullying, and gender	Illinois bully-fight-victim scale (Hamburger, Basile, & Vivolo, 2011)	*N* = 174 (69.5% males); Age range = 11 to 15 years
Sharma, Mehari, Kishore, Sharma, and Duggal (2020)	Delhi, New Delhi	Pilot evaluation of SETU violence prevention intervention, victimization, physical aggression, nonphysical aggression	Illinois bully fight victim scale (Espelage & Holt, 2001)	*N* = 95 (72.5% males) in intervention group, *M* age = 12.7 years; *N* = 108 (67% male) in comparison group, *M* age = 12.6 years
Shinde et al. (2018) ; Shinde et al. (2020)[4]	Nalanda District, Bihar	School climate, health outcomes, SEHER multi-component intervention	Beyond blue school climate questionnaire (BBSCQ; Sawyer et al., 2010); Bullying Victimization questionnaire (Bond et al., 2007)	Group 1 *N* = 4524 (49% boys); Group 2 *N* = 4046 (54% boys); Group 3 *N* = 4465 (56% boys); Age range = 13 to 18 years
Skrzypiec, Slee, and Sandhu (2015)	Patiala, Punjab	Nature of bullying by using Photo-story method	Photo-stories	*N* = 33 (57.6% males); Age range = 12 to 15 years, *M* age = 13.7 years

Bully/victim results	Research Findings
Prevalence of bullies: *n* = 27 (16%), fighting *n* = 20 (11%), victimization *n* = 30 (17%) in the preceding month; Males were more likely to bully and fight, and be victimized than females	Being a victim online is comparable to such incidents in-person
At baseline, girls were less likely to endorse aggression and victimization (t-values from 3.0 -5.1; $p < 0.01$). Victimization score at baseline: Intervention school *M* = 4.4, *SD* = 3.4, control school *M* = 4.1, *SD* = 3.3. Nonphysical aggression score at baseline: Intervention school *M* = 5.2, *SD* = 4.9, control school *M* = 4.6, *SD* = 4.7. Physical aggression score at baseline: Intervention school *M* = 3.9, *SD* = 3.4, control school *M* = 3.8, *SD* = 3.2	At the 6-month follow-up, there was a significant decrease in frequency of nonphysical and physical aggression and victimization. Participants' age and gender moderated effect of intervention on physical aggression. Girls showed greater change in physical aggression as compared to boys. The intervention was more effective for older age group (13-14 years old) than younger age group (11-12 years old)
Bullying *M*: Group 1 = 0.75, *SD* = 1.5; Group 2 = 0.85, *SD* = 1.6; Group 3 = 0.69, *SD* = 1.4; Victimization in past 12 months: Group 1 *n* = 723 (16%); Group 2 *n* = 740, (18%); Group 3 *n* = 772 (17%); Violence perpetration in 12 months: Group 1 *n* = 579 (13%); Group 2 *n* = 610 (18%); Group 3 *n* = 575 (13%);	SEHER intervention has substantial beneficial effects on school climate and health-related outcomes when delivered by lay counsellors, but has no effects when delivered by teachers. At 17-month follow-up, SEHER intervention effects were greatest for frequency of bullying; violence victimization; and violence perpetration(Shinde et al., 2020)
37 % males (*n* = 7 of 19) and 21% females (*n* = 3 of 14) reported bullying victimization; 84% of reported victims reported male perpetrators; *n* = 4 reported bullying victimization; *n* = 13 reports incidents of physical harassment	Reports of teasing using one's family name (caste-based bullying) was commonly reported by some students; For females, sexual harassment or 'eve-teasing' was a common occurrence

Study (year of publication)	**City, State**	**Main variables of the study**	**Instrumentation**	**Participants**
Skrzypiec et al. (2018)	South Eastern Punjab	Bullying, peer aggression, and harm-perceived by intent, perceived harm, repetition and power imbalance	Student aggression and victimization questionnaire (SAVQ, Skrzypiec et al., 2015)	*N* = 531 (11.3% females); Age range = 11 to 16 years
Skrzypiec, Slee, Sandhu, and Kaur (2018)	Patiala, Punjab	Bullying, peer aggression-assessed by level of harm, intention, repetition and power imbalance	Olweus bullying questionnaire (Olweus, 1978); Peer Relations Questionnaire (Rigby & Slee, 1991)	*N* =186 (58.6% male); Age range = 11 to 15 years; *M* age = 13.38, *SD* = 0.91
Suresh and Tipandjan (2012)[5]	Puducherry, Tamil Nadu	Retrospective bullying in school, and college adjustment	Retrospective bullying questionnaire (Schäfer et al., 2004)	*N* = 95 (62 males)

Bully/victim results	Research Findings
53% victims of bullying in the preceding 3 months; 36% victims of repeated aggression; 0.2% victims of singular intentional harm; 1% victims of unintentional harm; 0.2% not maltreated; 10% children intentionally harmed through peer aggression; 91% reported being harmed from negative experiences with peers	Peer aggression experiences that do not meet the bullying criteria are also rated as harmful by victims
59% reported some level of bullying; 43% classified as having been seriously bullied in the previous month; 17% mildly bullied; 41% never bullied; No gender difference (χ^2 (2) = 3.85, p > 0.05, Cramer's V = 0.15); Students who reported being seriously bullied had the highest victimization scores (F(2) = 9.7, p < 0.0001) and χ^2(2) = 15.8, p< 0.0001); n = 45 (24.19%) students who indicated that they had experienced five or more different acts of victimization reported that they had "never" been bullied in the previous month	While peer aggression may be normative, bullying is experienced by a much smaller proportion of students than self-reports indicate; There is confusion about the meaning of "being bullied"
No significant difference between gender in perceived seriousness of physical bullying during school	Victims of primary school had academic, interpersonal and self-esteem problems; Victims of secondary school had interpersonal, self-esteem and family problems; Victims of both, had all three problems. Thus, victimization in school associated with adjustment during college

Study (year of publication)	**City, State**	**Main variables of the study**	**Instrumentation**	**Participants**
Swain, Mohanan, Sanah, Sharma, and Ghosh (2014)	Udupi, Karnataka	Traffic rules, violence at school, and suicidal thoughts	Youth risk behavior survey (Centers for Disease Control and Prevention, 2013)	*N* = 381 (46.98% females); Age range = 15 to 19 years
Thakkar, Van Geel, Malda, Rippe, and Vedder (2020)	Indore, Madhya Pradesh	Bullying, victimization, psychopathy	Illinois bully fight victim scale (Espelage & Holt, 2001); Dyadic peer nominations (Veenstra et al., 2007)	N = 1120 (296 girls) at T1, N = 1036 (274 girls) at T2, N = 1006 (282 girls) at T3; M age = 13 years

[1] Study by Correia et al. (2009) and Donat et al. (2012) have the same Indian sample in their studies. However, the variables examining correlates and consequences of bullying are different in the studies, and thus for the purpose of our review, we include both studies.

[2] Study by Khatri and Kupersmidt (2003) is based on a dissertation thesis submitted to University of North Carolina by the first author in 1996. For the purpose of our review, we consider the dissertation and the journal article as one inclusion since the participants as well as bullying reports are the same for both.

[3] Study by Nguyen et al. (2017) and Nguyen et al. (2019) have the same Indian sample in their studies. However, the former paper focuses on prevalence and forms of bullying and victimization, whereas the latter one examines psychosocial outcomes of victimization, and thus, we include both studies separately in the present review.

[4] Study includes reports from two articles (Shinde et al., 2018 and Shinde et al., 2020). The studies use an intervention design with the same sample, and include reports after 12 months follow-up and 17 months follow-up of the design, both of which have been reported in point 32 in the present review.

[5] Study by Suresh and Tipandjan (2012) uses a retrospective bullying questionnaire with undergraduate college students. As the study focuses on bullying behavior in school retrospectively with adolescents, we included the study in the present review.

Bully/victim results	Research Findings
18% bullied others in the past month at the school campus; 30% were victims in the past 6 months; 11% were involved in serious fights; 10% had been slapped intentionally (14% boys); 19% of students' property had been stolen or damaged by other students in school; *n* = 52 boys bullied someone compared with *n* = 18 girls bullying someone	Boys, students of 16 years of age, affected or victimized by violent activities at school and bullied by were determining factors for violence-related behaviors after adjusting for other variables
Bullies on self-reported scale: 6.3%, 7.6%, and 7.7% at T1, T2, and T3, Victims on self-reported scale: 10.3%, 9%, and 8.6% at T1, T2, and T3, Bully-Victims on self-reported scale: 5.6%, 5.0%, and 6.2% at T1, T2, and T3; Bullies on peer-reported scale: 10.8%, 10.3%, and 15.1% at T1, T2, and T3, Victims on peer-reported scale: 10.3%, 17.6%, and 12.8% at T1, T2, and T3, Bully-Victims on self-reported scale: 2.9%, 2.7%, and 2.8% at T1, T2, and T3.	Gender predicted bullies at T2 and bully-victims at T3 for the self-reported scale, where more boys classified as bullies and bully victims than girls. More general caste students qualified as victims as compared with non-general caste. Religion predicted victims at T1 and for the peer-reported scale, where non-Hindu children were significantly more likely to classify as victims than Hindu children. Psychopathic traits, when considered together, predicted bullying behavior in urban, school-going youth

Risk Factors for Bullying and Victimization

Thirteen studies from India focus on the risk factors and correlates of bullying and victimization. Risk factors refer to variables that have the potential to increase or decrease the likelihood of bullying behaviors occurring (Olweus, 1996), whereas correlates of bullying behaviors focus on factors that are significantly associated with, and co-occur with, bullying behaviors. Risk factors for bullying and victimization identified through the review were body- weight (Patel et al., 2017), religion (Thakkar et al., 2020), and age (Malhi et al., 2015; Ramya & Kulkarni, 2011), and factors that were found to be significantly correlated to bullying behaviors were personality traits (neuroticism; Donat et al., 2012), academic performance (Patel et al., 2017), urban/ rural setting (Nguyen et al., 2017; Samanta et al., 2012), and father's education level (Sethi et al., 2019). Factors that were found to be risks or correlates of bullying behavior in various studies included in the review, were caste-system of India (Kelly et al., 2016; Sethi et al., 2019; Thakkar et al., 2020), socio-economic status (Malhi et al., 2015; Sethi et al., 2019) and gender differences.

Studies focusing on the caste system of India reported contradictory findings ranging from 'General' caste students experiencing lower harassment (Kelly et al., 2016), 'General` caste students experiencing more victimization (Thakkar et al., 2020), to no differences between castes (Khatri & Kupersmidt, 1996). As regards the role of religion, Thakkar et al. (2020) reported that non-Hindu children were significantly more likely to classify as victims than Hindu children. For SES, Malhi et al. (2015) found a significant relationship between SES and victimization, with low SES students scoring higher on physical victimization, whereas high SES students scored higher on relational victimization. For gender comparison, although not fully consistent, most studies within India reported that boys scored higher than girls on bullying perpetration as well as bullying victimization (Narayanan & Betts, 2014; Nguyen et al., 2017; Patel et al.,

2017; Pronk et al., 2016; Ramya & Kulkarni, 2011; Sethi et al., 2019; Sharma et al., 2017; Swain et al., 2014). Age was also found to have some, though inconsistent, relationship with bullying behavior in school (Malhi et al., 2015; Patel et al., 2017; Ramya & Kulkarni, 2011).

Consequences of Bullying

Being bullied was found to be associated with anxiety, depression, and preferring to stay alone (Kshirsagar et al., 2007). Also bullied children were more likely to report symptoms such as school phobia, vomiting, catastrophizing, self-blaming and sleep disturbances (Kshirsagar et al., 2007; Maji et al., 2016). Bully-victims had higher risk of conduct problems, hyperactivity, and academic difficulties, and while bullies were found to be better at academics, they had high self-esteem, and higher risk of hyperactivity and conduct problems (Malhi et al., 2014; Sarkhel et al., 2006).

DISCUSSION

Based on the syntheses of studies included in our review we draw the following conclusions: (a) Limitations in methodological characteristics of studies were identified with regard to sampling, instrumentation, data collection processes and presentation of findings and thus, conclusions from the included studies must be considered cautiously; (b) Bullying happens in India, as it does internationally, though the range of prevalence estimates varies widely across studies; (c) Name-calling, using bad words and other forms of relational and social bullying are common in India, and physical bullying is also prevalent; (d) Risk factors for bullying and victimization in India show some factors that are typical to the Indian context, for example, caste; and (e) Bullying is associated with adverse consequences for both, the aggressor and the victim, in India.

The current review notes that bullying is widely spread in India. However, available prevalence estimates vary largely across India, for bullying perpetration as well as for victimization. India is a geographically vast country, with enormous differences in regional socio-demographics (Charak & Koot, 2015), thereby constraining prevalence estimates to stratified regions. Scholars have noted that homogeneity within culture in India, like in many other countries, cannot be assumed (Panda & Gupta, 2004). Thus, generalizing regional prevalence estimates to be representative across India is questionable, calling attention to the need to conduct cross-regional and cross-cultural comparative studies of bullying behavior within the country.

Furthermore, the type of instruments and their psychometric properties impact the findings of a study (Milfont & Fisher, 2010), thereby not only making prevalence estimates from studies in the present review questionable, but also warranting caution to conclusions. Also, conclusions about similarities or differences between the Indian and Western contexts require that metric invariance first be established to allow cross-ethnic and cross-cultural comparisons (Milfont & Fisher, 2010). Of the 37 studies included in the present review, 22 studies provided descriptions of the psychometric properties of the instruments used, while 15 studies did not report the properties of instruments in their study raising concerns about comparability across studies in terms of instruments used. Furthermore, most studies on bullying in India adopted a quantitative method of data collection, where only 6 out of the included 37 in the present review used a qualitative approach to collect data for their research. The concerns about validity are increased by the over reliance on self-reports; we found that only 7 of the 37 studies used peer-reports, and 2 studies used self- as well as informant reports. In self-rating procedures pupils tend to underestimate their aggressive behavior and emphasize prosocial behavior on account of social desirability (Salmivalli et al., 1996). There is an urgent need to validate and standardize instruments, with special attention to peer

reports, that assess bullying behaviors and establish their generalizability to Indian samples, to attain unbiased reports of bullying behavior in India (Sousa & Rojjanasrirat, 2011).

Furthermore, only few studies included a sample that is sizable enough to provide firm, stable conclusions (Naing et al., 2006), and thus, the basis for the generalizability of the reports on the prevalence is very narrow. Ioannidis (2005) asserted that the smaller the sample sizes in a study, the smaller the power of the study, and consequently the higher the likelihood of the research findings to be affected by bias. Thus, we emphasize the need to conduct more studies across India, with proportional sample sizes for objective, less biased conclusions regarding bullying behavior. Also, the purposive selection of participants in 25 of the 37 included studies poses a potential threat to the validity of findings. In future studies, random sampling approaches should be used to study bullying in India.

Furthermore, we observe that there are only two longitudinal studies from India (Nguyen et al., 2019; Thakkar et al., 2020). Longitudinal studies help disentangle antecedents and consequents, to estimate the inter-individual variability in intra-individual (or within-person) patterns of change (Curran et al., 2010), allowing investigations of the sequence of occurrence of bullying with its risks and outcomes. Additionally, several studies in the present review report the adverse effects of bullying, however, the magnitude of these effects remains unclear. Only two of the 37 included studies were experimental studies with pre- and post-test intervention designs (Sharma et al., 2020; Shinde et al., 2018; 2020), which also underlines the urgent need to conduct fundamental indigenous research on the topic of bullying behaviors so that future research focusing on effective and tailor-cut interventions can be modeled for the Indian context. Also, given that most studies included were cross-sectional, cause and effect reasoning for bullying behavior remains elusive in India, and warrants

further attention.

Lastly, we emphasize that risk factors of bullying need to be studied in light of the Indian culture to understand its meaning and relevance in the culture (Smith et al., 2018). In western literature as well, several recent studies have indicated a growing need to study bullying in relation to its broader socio-cultural context (Graham, 2016). This is imperative in the Indian context given the contextual-development perspective (Chen & French, 2008), which suggests that in collectivistic countries like India, context is more likely to affect evaluations of socially acceptable behavior and experiences, rather than individual attributes. Given the diversity and population density of India, considerable disparities and inequalities co-exist between cultures and also within the sub-groups of particular cultures (Panda & Gupta, 2004). For instance, factors such as caste, dissimilarities between urban and rural youth, and the range of SES as observed in India, can help in better, more deeply understanding bullying.

Conclusions and Implications for Future Research

This review contributes valuable findings in the field of bullying and victimization in India. However, it has been noted that conducting research in India comes with its own set of logistical and contextual challenges (Smith et al., 2018), and thus the conclusions drawn through the review must be considered with due caution given methodological limitations of the included studies. The quality of research conducted in India has scope of improvement in terms of methodological rigor, data collection processes, instrumentation, and presentation of the findings.

The present study is limited in capacity as it does not include a report on cyberbullying, and thus future research on the topic of cyberbullying is necessitated within the Indian context. Furthermore, terms such as "aggression" and "discrimination" were not used as search terms in the current study. However, bullying is a form of aggression, and discrimination could be, in some cases, strongly tied to bullying

(Verkuyten & Thijs, 2002). Future studies should pay more attention to the relations between bullying and discrimination.

In contrast to the large body of research on bullying from western countries where findings have been reproduced with a delimited adolescent population insistently, data from India is scanty. India accommodates the largest adolescent population in the world, providing a potential reservoir of relatively untapped resources, that could provide in-depth knowledge of causes and consequences of bullying and victimization. Given its special cultural context, there is considerable scope to scrutinize cultural contexts of bullying behavior in India that could assist in revealing novel insights, such as the role of socio-economic distance between different sects of society in low to middle income countries. Such insights might facilitate the conception of dynamic intervention designs for not only the Indian population, but also for western populations. Future studies that compare how bullying happens in the western and Indian context would also help shed further light on this topic.

CHAPTER THREE

Bullying and Psychopathic Traits: A Longitudinal Study with Adolescents in India

3

Published as

Thakkar, N., van Geel, M., Malda, M., Rippe, R. C., & Vedder, P. (2020). Bullying and psychopathic traits: A longitudinal study with adolescents in India. *Psychology of Violence, 10,* 223-231. http://dx.doi.org/10.1037/vio0000277

ABSTRACT

The goal of this three-wave longitudinal study was to examine if youth psychopathic traits, namely narcissism, callous-unemotionality (CU), and impulsivity predicted the likelihood of a student being a bully, victim, or bully-victim among adolescents in India. The sample consisted of 1,238 students from nine schools in Indore, India. We used self- as well as peer-reports to measure bullying and victimization behavior in the classroom, at three time-points in one school year. Psychopathic traits were measured at the first time point. Using multinomial logistic regression (MLR) analyses, we first examined if the covariates caste, religion, age, gender, and socio-economic status predicted bullying and victimization behavior in the classroom. At step 2, in addition to the covariates, we included narcissism, callous-unemotionality, and impulsivity as independent variables, to test the predictive strength of psychopathic traits on the classification as bullies, victims, or bully-victims. In MLR analyses we found that the three psychopathic traits together, along with socio-demographic covariates, were a better fit in predicting bully, victim, and bully-victim categories, as compared to the covariate only model. However, we found no relations between the psychopathic traits of narcissism, CU traits, and impulsivity, with classifications as bullies, victims, or bully-victims at either of the time points on the self- or the peer-reported measures. Psychopathic traits, when considered together, predicted bullying behavior in urban, school-going youth in India. Narcissism, CU traits, and impulsivity independently did not predict bullying or victimization roles.

Keywords: Psychopathy; Bullying; Adolescents; India; Extended replication

INTRODUCTION

Bullying can be defined as a repetitive and intentional act of psychological and/or physical aggression by a more powerful person or group against a less powerful person or group (Olweus, 1993). Experiences of bullying and victimization in adolescents may cause anxiety, depression, suicidal ideation, and substance use, with even worse consequences observed among bully-victims, i.e., adolescents who both bully and are bullied (Moore et al., 2017). Bullying is likely driven by a desire for dominance and popularity within the classroom (Salmivalli & Peets, 2009), and together with other characteristics of bullies, like low empathy (Pöyhönen & Salmivalli, 2008) and careless behavior (Liang, Flisher, & Lombard, 2007), this collates to form the definition of psychopathy (Salekin, 2016). The central aim of the current study is to examine the relation between psychopathy and bullying in adolescents, through a three-wave longitudinal design in an Indian sample of school going early adolescents.

A widely accepted perspective on psychopathy in the study of behavioral problems is the three-dimensional approach that is characterized by traits of narcissism, callous-unemotionality (CU), and impulsivity (Van Baardewijk et al., 2010). Narcissism, which is also called the interpersonal dimension, refers to a grandiose sense of self-worth, dishonest or superficial charm and manipulation for personal gain. Callous-unemotionality (CU), the affective dimension, comprises of traits of callousness, unemotionality, and lack of remorse and empathy. Impulsivity, the behavioral dimension, concerns impulsivity, irresponsibility, and thrill-seeking behavior (Colins, Noom, & Vanderplasschen, 2012; Van Baardewijk et al., 2010).

Several studies have found cross-sectional associations between bullying behavior in youth and narcissism, CU traits, and impulsivity (Ciucci, Baroncelli, Franchi, Golmaryami, & Frick, 2014; Fanti & Henrich, 2015; Jolliffe & Farrington, 2011).

Few studies, however, have explored the topic of bullying and psychopathy using a longitudinal design (see however Fanti & Kimonis, 2013; Reijntjes et al., 2016). Such studies are of particular importance because they may shed light on the question of directionality of relationships. One distinctive longitudinal study found in the literature on youth psychopathy and bullying is the study by Fanti and Kimonis (2013). They reported that all three psychopathy dimensions (narcissism, CU traits, and impulsivity) significantly predict bullying after one year (longitudinally), and that impulsivity predicts victimization after one year.

Another improvement on earlier studies on the relationship between bullying and psychopathy is the use of peer reports next to self-reports. Self-reports are frequently used in the study of bullying and victimization, because it is an easily applied and relatively efficient method for collecting information about personal experiences (Cornell & Bandyopadhyay, 2009). However, statistical relations between self-reported measures may be inflated because of shared method variance while a key advantage of peer-reports is that scores are based on multiple informants, thus decreasing measurement error and providing a more reliable result (Branson & Cornell, 2009); the combination of both peer and self-reports is advised in the study of bullying and its correlates (Cornell & Bandyopadhyay, 2009).

Also important for the relevance of the study is that it is conducted in Pune, India. In contrast to the relative abundance of studies on bullying in western countries, there is a paucity of research on the topic of bullying from India, a country with 236 million youth, the largest number by country worldwide (UNFPA, 2014). The few studies that do exist, report prevalence estimates of bullying of 30% to 60% (Kshirsagar, Agarwal, & Bavdekar, 2007; Ramya & Kulkarni, 2011), calling attention to this topic. Indian society is characterized by considerable diversity and inequalities linked to factors such as caste, religion, socio-economic status (SES), and languages, which are unique to the Indian context (Panda & Gupta, 2004). It is likely that these factors play a role in youth's

bullying experiences (Froystad, 2013; Nambissan, 2009), and may make it questionable whether the regularities found in studies predominantly conducted in high-income western countries are generalizable to Indian society (Charak & Koot, 2015). To illustrate, given the multi-religious diversity in India, religious bullying is a normatively accepted and habituated practice (Erum, 2018). For example, countless 'Sardaar' (Sikh) jokes are the eventual punch line of most banter and jokes in the country, where the regularized humor is that Sikh are slow-witted (Froystad, 2013).

These culture-specific factors may interfere in the associations between individual traits and bullying behavior as explained through the *social push hypothesis* (Ray, Thornton, Frick, Steinberg, & Cauffman, 2016) that states that associations between individual attributes and behavioral problems only manifest when the social contexts are 'less harmful', as also seen in western countries (Ray et al., 2016) where manifestations of psychopathic traits are stronger in more affluent than in less affluent communities. Scholars reason that this is because the impact of the negative context overpowers the influence of personal psychopathology (Gao, Baker, Raine, Wu, & Bezdjian, 2009; Ray et al., 2016). In line with this reasoning and the evidence supporting it, it could be that the power of social inequalities in India overwhelms manifestations of psychopathic personality characteristics. Therefore, we include the socio-demographic constructs age, SES, caste, and religion in the present study. Furthermore, psychopathy has been observed to have a conflicting gender component, where some studies report higher psychopathy prevalence in males than females (Schrum & Salekin, 2006), while other studies reported no gender differences in prevalence rates (Campbell, Porter, & Santor, 2004). Similarly, males have been noted to score higher on bullying and victimization than females (Narayanan & Betts, 2014), which is why we include gender as a covariate in the present study.

Current Study

The aim is to use a longitudinal design to study the associations between psychopathic traits and bullying behaviors in school-going adolescents in India, by using peer-reported evaluations along with self-reported ones to measure bullying as well as victimization. The present study specifically aims to investigate whether the dimensions of psychopathy, namely CU traits, narcissism, and impulsivity, contribute unique variance in predicting bullying and victimization at three time points during a school year, with three months between waves. We also examine whether psychopathy dimensions differentiate between roles in bullying (i.e., bully, victim, bully-victim, and uninvolved group).

Building upon prior research (Fanti & Kimonis, 2013), we hypothesize that (1) all three dimensions of psychopathy predict bullies and bully-victims at time points T1, T2, and T3, and (2) impulsivity predicts victims at time points T1, T2, and T3. Furthermore, based on past research from India, we predict that (3) more boys classify as bullies, victims, and bully-victims than girls (Narayanan & Betts, 2014), and (4) more students from the non-general category of caste ("lower" caste) classify as victims than "general" caste students (Khatri & Kupersmidt, 2003). Meta-analytic studies from outside India have shown that SES is weakly related to bullying roles (Tippett & Wolke, 2014), whereas a study from India shows no clear relationship (Malhi, Bharti, & Sidhu, 2015). Inconsistent reports have been observed in literature from India about the associations between age and bullying behavior (Patel, Verma, Shah, Phatak, & Nimbalkar, 2017; Ramya & Kulkarni, 2010), and although religion-based bullying is common in India, it is observed to be more reciprocal between religions than uni-directional (Erum, 2018). Given these findings, we hypothesize, but with due caution, that (5) more students from lower SES will qualify as bullies, victims, and bully-victims than higher SES children, (6) age will not be related to bullying roles, and (7) more non-Hindu students will qualify as victims than Hindu children (Patel et al., 2017).

METHOD

The study reported here is part of a larger project on bullying and victimization in Indian schools. The dataset has not been published before. Here we present only the variables relevant to the current paper.

Participants

Data were collected from nine schools in and around the city of Indore. The initial sample in our study consisted of 1,908 students aged 11 to 16 years, from ten schools, from grade 7, 8, and 9 ($M_{\text{-age}}$ = 13.01, *SD* = 1.15). From the all-boys school, 143 students at T2 were excluded from data collection, due to administrative difficulty (laxed discipline in classrooms) in collecting data from a large number of participants from that school (566) at T1. From grade 7 of one school, 185 students had received two sets of questionnaires during data collection at T1, one in English and the second in Hindi the next day, because the students found the English questionnaires difficult to follow thus excluding these students from final analyses. All students (337) of another of the ten participating schools were excluded from analyses as the school chose to drop out in Wave 3 because of undisclosed reasons and hence, data were missing, not at random. Five students were excluded due to incomplete data on their grade.

Every student enrolled in a class at the participating schools was invited to complete the questionnaire. However, beyond the above-mentioned exclusions, students that opted out of the research or were absent during data collection (118 at T1; 202 at T2; and 232 at T3) were marked as missing in analyses. A distinction between who opted out and who was absent during data collection was not made in the present study. Most students present at the days of data collection chose to participate; however, some students chose to go to the library or complete their home assignments in the back rows of the class, thus resultingly being marked as absent (missing) in analyses.

Large class sizes (sometimes over 50 students), students sitting closer together on one bench especially in lower SES schools, and laxed disciplinary structures have long been identified to complicate data collection processes in India (Bapat, 2016; Hirway, 2010). Thus, a record telling the absentees apart from the students who opted out was not maintained. All attention focused on the students filling out the questionnaires by addressing their questions and keeping them at task during data collection. Counting out the students who were absent, excluded, or opted out of research, of the initial sample size of 1908 students the final sample consisted of 1,238 students from nine schools where 1,120 of the 1,238 students were present at T1 (296 girls, 824 boys); 1,036 students were present at T2 (274 girls, 762 boys); and 1,006 students were present at T3 (282 girls and 724 boys). Students completed the questionnaire in either Hindi (*N* = 497; 40%) or English (*N* = 741; 60%), depending the formal language of instruction of the participating schools. For caste, students identified as either "general" category (*N* = 551; 44%), which denotes a social group that belongs to the "forward caste" or a caste perceived to be "higher" than other groups (Nambissan, 2009), or as non-general category (*N* = 376; 30%) that includes "scheduled caste", "scheduled tribe", and "other backward classes". Students self-identified their religion as Hindu (*N* = 947; 85%), Muslim (*N* =72; 7%), Sikh (*N* = 24; 2%), and the remaining 6% students identified as Christian, no religion, or different religion. Of the nine participating schools, three were public schools (i.e., funded and run by the government) and six were private schools (privately owned by non-government organizations). Eight schools were mixed boys' and girls' schools, whereas one school was an all-boys' school. Age and SES distribution of the participants are reported in Table 1.

Procedure

The Institutional Review Board of the Institute of Education and Child Studies at Leiden University approved of the study. A convenience sample was obtained by

approaching 15 schools in Indore, India. Ten schools agreed to participate. The principals, acting in loco parentis, gave permission to collect data from students in grades 7, 8, and 9, and though parents were not invited to give consent for their child's participation, students were allowed to opt out of the research. Data were collected at three time-points with intervals of two to four months in the school year of 2015-2016.

A team of 20 trained research assistants, all first- or second-year Master of Social Work students, helped to collect data. At least two research assistants were present in each class, gave instructions and were available to answer any of the students' questions. Students sat next to each other on benches, and were instructed not to look at each other's responses and cover their questionnaires while filling them out. Class teachers were in the class too, helping to keep students on task and making sure that students did not look into each other's questionnaires, but were asked not to interfere with completing the questionnaires or to peer into any student's questionnaire. Students were told that their participation was voluntary and that their answers would not be shared with parents, teachers, or classmates. The students took approximately 75 minutes to complete the questionnaire.

Instruments

Students self-reported information regarding socio-demographics like gender, grade, age, caste, religion, and family background.

Family Affluence Scale II

The Family Affluence Scale II (FAS; Currie, Elton, Todd, & Platt, 1997) was used to measure SES. This self-report measure consists of four questions, each using a different response scale. FAS was developed so that adolescents can give an approximation of their socioeconomic status. The FAS has been found to be a valid indicator of SES (Boyce, Torsheim, Currie, & Zambon, 2006), and has been validated for its use with Indian adolescents (Bapat, 2016). Test-retest correlations between Wave 1 and Wave 2,

Wave 2 and Wave 3, and Wave 1 and Wave 3 were found to be $r = .73$, $r = .79$, and $r = .75$ for the English questionnaires, and $r = .70$, $r = .77$, and $r = .65$ for the Hindi questionnaires.

Psychopathy

Students were asked to complete the Youth Psychopathic Traits Inventory – Short Version (YPI-S; Van Baardewijk et al., 2010) at time point 1(T1). This 18-item self-report comprises of three dimensions (interpersonal, i.e., narcissism; affective, i.e., C.U traits, and behavior, i.e., impulsivity) with six items each. Response options are *does not apply at all* (1), *does not apply well* (2), *applies fairly well* (3), and *applies very well* (4). Previous research supports criterion and convergence validity for the scale (Colins et al., 2012; Van Baardewijk et al., 2010). In the present study, Cronbach's alpha was found to be .76 for the English as well as the Hindi questionnaire for the interpersonal dimension, .69 for English and .71 for Hindi for the affective dimension, and .74 for English as well as Hindi for the behavioral dimension.

Self-report of Bullies and Victims

The Illinois Bully-Fight-Victim Scale (Espelage & Holt, 2001) was used to assess self-reported bullying and victimization. The scale has been found valid and reliable (Espelage, Holt, & Henkel, 2003). The bully scale consists of nine items on teasing, name-calling, social exclusion, and rumor spreading (e.g., "I teased other students."). For the bully classifications the bully scale was combined with the fight scale. The fight scale consists of five items on physical fighting (e.g., "I got into a physical fight"). The victimization scale consists of four items that measure the experience of victimization by peers (e.g., "Other students picked on me."). Response options for the scales are *never* (1), *1 or 2 times* (2), *3 or 4 times* (3), *5 or 6 time*s (4), and *7 or more times* (5) in the past 30 days. In the present study, Cronbach's alpha for the combined bully/fight scale was found to be .87 at T1, .93 at T2, and .92 at T3 for the English questionnaires and .93 at T1, .93 at T2, and .96 at T3 for the Hindi questionnaires. Cronbach's alpha for the victimization scale was found to be .81 at T1, .84 at T2, and .85 at T3 for the English

questionnaires and .88 at T1, .90 at T2, and .92 at T3 for the Hindi questionnaires.

Peer-report of Bullies and Victims

All students were given a sheet of paper that described bullying behavior on the top in a few words (teasing, fighting, excluding, name calling etc.), and had two columns with a list containing first and last names of all classmates. Students were asked to nominate bullies (circle names in the first column) from their class, and draw a line from the bullies to their victims in the second column. While the number of victims to be listed was not limited, we set a limit of up to five nominations for bullies to be listed. This was essential to avoid having a chaos of crossing lines and consequently scoring problems. Dyadic nominations of bully and victim status, received by peers from within a class, are found to be a reliable and valid estimate yielding consistent results with other informant reports (Veenstra et al., 2007). A total score was computed based on the number of times an individual was marked as a bully or victim by their classmates. These total scores were changed into proportions by dividing the total scores by the number of students in class (Veenstra et al., 2007).

Analysis Plan

Power

Applying a set of assumptions for any main effect (OR = 1.2, lognormal distribution for the predictor, base rate or each group 25%, alpha = 0.05, power = 0.80, and $R^2 = 0.10$ for other predictors) for the current data leads, according to Gpower 3.1, to a required sample size of 259 observations in total for reliable tests of the main effects in a single logistic model. As we applied a multinomial model with four classes (and thus three transitions), just over 750 participants would be required. This number is exceeded by the available sample size of 1,238. In addition, it is common practice to fit simpler models on data that exceed the 10:1 ratio of events and non-events to the number of candidate parameters (Peduzzi, Concato, Kemper, Holford, & Feinstein,

1996). For individual prediction models 20 to 50 observations per variable lead to stable AUC performance in such models (Van der Ploeg, Austin, & Steyerberg, 2014). These numbers are easily exceeded in the current study.

Missing Value Analyses

Missing value analyses indicated that Little's (1988) Missing Completely at Random (MCAR) was significant ($\chi 2$ (59, 534) = 47,681.94, $p < .001$). Full Information Maximum Likelihood (FIML) estimation is a sophisticated procedure known to adequately deal with data that are not missing completely at random and thus, all statistics reported in the analyses used the FIML estimation (Schlomer, Bauman, & Card, 2010). Part of the missings was caused by the procedure used for classifying participants into bullying categories. Only those students were classified who filled out at least 80% of the psychopathy, bully, fight, and victim subscales. The eventually remaining missing scores of students who did not meet the 80% criterion, were dealt with using FIML estimations in main analyses which allow us to not only include students for whom we had mean scores at T1, T2, and T3, but also those students for whom we had means at both T1 and T2, but not T3, or students for whom we had means for both T2 and T3, but not T1 (Schlomer et al., 2010), and thus students with less than 80% responses were also included in final analyses.

Furthermore, we compared students that were present in all three waves of the study ($N = 795$) to students that were present at either point T1, but absent at T2 and T3 ($N = 63$), or students that were present at T1, but absent at either T2 ($N = 113$) or T3 ($N = 149$). Independent *t*-test analyses showed that the two groups were not significantly different on SES or psychopathy traits, but were significantly different on age at T1 (F (1123, 591.37) = 2.58, $p < .05$) such that the students who were present in all three waves were significantly younger than students who were absent at either T2 or T3, or both. Chi-square tests revealed that the two groups did not differ on caste and religion but the proportion of males present in all three waves was significantly higher (χ^2 (1) =

12.77, $p < .001$) as compared to the absentee group.

Analysis

At step 1, we computed means for students who had responded to 80% or more items on the self-reported bully/fight and victim subscales for T1, T2, and T3 respectively, while scale scores for students who had incomplete data on more than 20% items on each subscale in a particular wave were defined as missing. The 80% cut-off rule was necessary as a first step so that students could be classified into one of the four bully or victim categories (Espelage & Holt, 2001), and these categories were then used as dependent variables in the main analyses. Students who scored one standard deviation above the mean or more (*M*+1*SD)* on the bully/fight scale were classified as bullies, whereas those who scored more than *M*+1*SD* on the victim scale were classified as victims. Students who qualified as both, bullies and victims, were labeled bully-victims, while participants who did not qualify in either category were classified as the uninvolved group. In the same manner, using the 80% rule, we computed subscale means for narcissism, CU traits, and impulsivity on the psychopathy scale for T1. For the peer-reported bully and victim scales, percentage of times a child was marked a bully/victim in class was calculated by classroom size (count*100/total number of students in class) (Veenstra et al., 2007) and the standardized values were then classified by the *M*+1*SD* criterion.

For main analyses, we conducted multinomial logistic regression (MLR) analyses using robust standard errors to investigate the effects of psychopathy traits on bullying and victimization over time, while accounting for the multilevel nature of the data structure, and still allowing for FIML estimation (Tabatabai et al., 2014). All main analyses were conducted in *R version 3.4.3* (R Core team, 2019). The bully, victim, bully-victim, and uninvolved categories were added as outcome variables in MLR analyses. In model I of MLR, we added Gender, SES, age, caste, and religion as independent variables. In model II, to test if psychopathic traits added significant variance over and

above the covariates in predicting the likelihood of a student being a bully or a victim, we included narcissism, CU traits, and impulsivity as independent variables in addition to the covariates.

The intraclass correlations for the main variables in the study were found to be in the range of 0.02 to 0.15 which is considered to be negligible (Shieh, 2016), thus not requiring formal multilevel modeling for analysis. The potential residual effects of nesting were addressed through robust standard error estimation, to resolve the issue of residual higher order nesting variance in the estimation of the natural variability of the main effects, namely the confidence intervals for significance interpretation (Tabatabai et al., 2014). Thus, data were robustness-corrected for between-subjects and within-subjects dependence given the nested structure of the study. Furthermore, explicit multilevel modeling was not used because FIML for multilevel MLR is not implemented and as such it would require multiple imputation for which no pooling rules are available (Enders, Keller, & Levy, 2018). Lastly, we also performed sensitivity analyses using a *mean* +2 *SD* criterion to classify bully/victims, and alternating leave-one-out analyses for each of the nine schools, to examine if the magnitude or direction of associations between psychopathy and bullying or victimization was affected by the given parameters.

RESULTS

Table 1 reports descriptive statistics and Table 2 the correlations for the main variables of the study. Concurrent correlations between self- and peer-reports of bullying and victimization were low, and the inter-rater reliability between the self- and peer-reports of bullying and victimization was not significant (Krippendorff's $\alpha > .05$ at T1, T2 and T3) which indicates that self-reported scores yield a different set of victims as compared to peer-reported victims. Psychopathy subscales were significantly inter-correlated at T1.

Table 3.1.

Descriptive statistics of variables in the study

	N	***M***	***SD***	**Range**
Age (T1)	1125	13.15	1.16	10
Age (T2)	1028	13.32	1.21	8
Age (T3)	1014	13.60	1.18	7
SES (T1)	1118	4.91	2.29	9
SES (T2)	1027	5.11	2.29	9
SES (T3)	995	5.17	2.25	9
Self-report bullying (T1)	1073	1.69	0.71	4
Self-report bullying (T2)	1010	1.77	0.79	4
Self-report bullying (T3)	984	1.87	0.84	4
Self-report victim (T1)	1084	2.13	1.10	4
Self-report victim (T2)	1014	2.16	1.13	4
Self-report victim (T3)	987	2.18	1.13	4
Peer-report bullying (T1)	1233	14.00	16.11	100
Peer-report bullying (T2)	1235	12.76	14.85	80
Peer-report bullying (T3)	1236	12.19	13.87	89
Peer-report victim (T1)	1233	16.49	13.97	94
Peer-report victim (T2)	1235	28.89	19.11	80
Peer-report victim (T3)	1236	26.72	15.93	89
Narcissism (T1)	1081	2.36	0.72	3
CU traits (T1)	1074	2.31	0.69	3
Impulsivity (T1)	1078	2.30	0.69	3

Note. Count and percentages for Caste and Religion have been reported in the participant section.

Table 3.2.

Zero-order correlations for variables in the study

	1	2	3	4	5	6
1. Self-report bullyT1	-					
2. Self-report bullyT2	.51**	-				
3. Self-report bullyT3	.50**	.57**	-			
4. Self-report victimT1	.51**	.33**	.27**	-		
5. Self-report victimT2	.27**	.51**	.32**	.52**	-	
6. Self-report victimT3	.24**	.27**	.51**	.42**	.49**	-
7. Peer-report bullyT1	.24**	.27**	.24**	.08*	.13**	.11**
8. Peer-report bullyT2	.25**	.24**	.26**	.07*	.10**	.10**
9. Peer-report bullyT3	.22**	.20**	.25**	.01	.06*	.09**
10. Peer-report victimT1	.06	.06*	.01	.12**	.10**	.09**
11. Peer-report victimT2	.07*	.13**	.05	.22**	.19**	.12**
12. Peer-report victimT3	.11**	.09**	.08**	.13**	.14**	.10**
13. Narcissism	.34**	.25**	.26**	.14**	.15**	.09**
14. CU traits	.27**	.25**	.20**	.20**	.19**	.12**
15. Impulsivity	.35**	.31**	.30**	.22**	.17**	.15**

*$p < .05$, **$p < .01$

7	8	9	10	11	12	13	14	15
-								
.74**	-							
.68**	.78**	-						
.20**	.17**	.15*	-					
.09**	.08*	-.10	.48**	-				
.11**	.11**	.13**	.42**	.38**	-			
.09**	.11**	.11**	.03	.03	.04	-		
.06*	.05	.07*	.06*	.07*	.04	.50**	-	
.12**	.10**	.12**	.08**	.04	.11**	.49**	.58**	-

Between 6.3 to 7.7 percent of students classified as bullies on the self-reported scale, whereas between 10.3 to 15.1 percent classified as bullies on the peer-reported scale over time. Similarly, the percentage of students that classified as victims was higher on the peer-reported scale, as compared to the self-reported victims (see Table 3). Model I in our analyses refers to the covariates only model where we test if the covariates age, gender, SES, caste, and religion can predict the likelihood of a student classifying as a bully, victim or bully-victim. Model II refers to an addition of the psychopathic variables (narcissism, CU traits, and impulsivity) with the covariates as independent variables, to test if psychopathic traits predict bully and victim classifications over and above the covariates. MLR analyses indicated that model II with all three psychopathy traits included as predictors, along with socio-demographic covariates, showed to be the parsimonious model based on the 'Akaike information criterion' (AIC) in explaining variance in the dependent variables at all three time-points for the self- as well as peer-report, as compared to model I with only gender, SES, age, caste, and religion as predictors. However, univariate results of model II were not significant for effects of either Narcissism, CU traits or impulsivity on predicting bully or victim categories for neither the peer- nor the self-reports, at all three time points (see Table 4). Hypotheses 1 and 2 were rejected. Univariate psychopathic traits, do not predict the likelihood of a student being a bully, victim or bully-victim. However, when the dimensions are taken together, they collectively serve as a better predictor of bullying roles beyond socio-demographics. With respect to the covariates, we found partial support for hypothesis 3: Gender predicted bullies at T2 ($B = 2.06$, $p < 0.01$) and bully-victims at T3 ($B = 2.15$, $p < 0.05$) for the self-reported scale, where more boys classified as bullies and bully-victims than girls. Also, a significant effect of caste was observed in predicting the victim category at time-point T1 ($B = -0.11$, $p < 0.05$) for the peer-reported scale, indicating that more general caste students qualified as victims as compared to non-general caste, contradictory to hypothesis 4. No effect of SES and age was observed in

predicting bully or victim categories for the self- as well as peer-reports. For SES, this finding conflicts with hypothesis 5, but for age this finding concurs with hypothesis 6. Finally, a significant effect of religion was observed in predicting the victim category at time-point T1 ($B = 0.02$, $p < 0.05$) and T3 ($B = 0.08$, $p < 0.05$) for the peer-reported scale, such that non-Hindu children were significantly more likely to classify as victims than Hindu children. This partly concurs with hypothesis 7. Furthermore, sensitivity analyses were performed with the alternating leave-one-out analysis for each of the nine school types, and a more extreme definition of bullies and victim (+/- 2*SD* for classification) was also analyzed for its association with psychopathy dimensions, either of which did not change the magnitude and direction of the estimated association parameters.

Table 3.3.

Students classified into groups of bullies, victims, bully-victims and uninvolved

	Self-report		**Peer-report**	
	n	**%**	***n***	**%**
Bully T1	78	6.3	134	10.8
Bully T2	94	7.6	127	10.3
Bully T3	95	7.7	152	15.1
Victim T1	128	10.3	127	10.3
Victim T2	111	9.0	218	17.6
Victim T3	107	8.6	159	12.8
Bully-victim T1	69	5.6	36	2.9
Bully-victim T2	62	5.0	33	2.7
Bully-victim T3	77	6.2	35	2.8
Uninvolved T1	965	77.9	941	76
Uninvolved T2	978	79	860	69.5
Uninvolved T3	970	78.4	892	72.1

Table 3.4.

Multinomial logistic regression results - Model II

Coefficient	(Intercept)	Gender	SES	Age
Self-Report				
Bully T1	-7.81	1.08	-0.04	0.04
Victim T1	-3.19	0.64	-0.11	-0.00
Bully-Victim T1	-6.03	1.72	-0.19	-0.33
Bully T2	-10.67	2.06**	0.13	0.17
Victim T2	-3.00	1.16	-0.02	-0.12
Bully-Victim T2	-8.03	1.52	-0.04	-0.03
Bully T3	-9.41	1.22	0.17	0.14
Victim T3	-2.34	0.54	-0.13	-0.03
Bully-Victim T3	-10.50	2.15*	0.36	0.03
Peer-Report				
Bully T1	-7.29	1.57	0.50	-0.00
Victim T1	-1.20	-0.17	0.50	-0.15
Bully-Victim T1	-41.86	14.61	0.69	0.47
Bully T2	-5.94	1.64	0.22	-0.01
Victim T2	-5.74	0.62	0.36	0.21
Bully-Victim T2	-12.85	0.80	0.15	0.47
Bully T3	-5.60	1.54	0.24	-0.01
Victim T3	3.87	-0.08	-0.03	-0.42
Bully-Victim T3	-6.03	0.90	0.18	0.00

Note. Gender: 0 = girls, 1 = boys; Caste: 0 = General, 1 = Non-general; Religion: 0 = Hindu, 1 = Non-Hindu

*$p < .05$, **$p < .01$

Caste	Religion	Narcissism	CU traits	Impulsivity
0.23	0.08	0.77	-0.50	0.79
-0.48	0.08	-0.28	0.16	0.37
0.53	0.01	0.48	0.99	0.40
0.31	-0.02	0.40	-0.02	0.42
-0.73	0.15	-0.14	0.28	0.15
-0.19	0.08	0.23	0.73	0.33
0.37	-0.04	0.64	-0.51	0.95
-0.66	0.05	0.01	-0.29	0.36
0.29	0.18	0.14	-0.03	0.94
0.08	0.05	0.48	0.07	-0.08
-0.11*	0.02*	-0.23	0.25	0.22
0.35	0.11	-0.26	-0.29	0.86
0.02	-0.03	0.25	-0.15	0.18
-0.10	0.01	-0.22	0.26	-0.06
0.22	0.10	0.28	0.30	-0.24
0.15	-0.02	0.13	-0.17	0.20
-0.13	0.08*	-0.14	-0.23	0.51
0.34	-0.15	0.19	-0.42	0.29

DISCUSSION

The purpose of the present study was to examine the role of psychopathy in relation to bullying and victimization in Indian adolescents. The percentage of students that categorized as bullies and victims in the present study is low as compared to the few studies from within India that report a higher prevalence of bullying (Kshirsagar et al., 2007; Ramya & Kulkarni, 2011). India is a geographically vast country with enormous differences in regional socio-demographics (Charak & Koot, 2015), and therefore prevalence estimates of specific regions may not be generalizable to the nation as a whole. Furthermore, correlations between self- and peer-reports of bullying and victimization were low, suggesting that peer-reports and self-reports yield different sets of bullies and victims. The percentage of students that classified as victims was higher on the peer-reported scale than on the self-reported scale. Previous studies that investigated agreement between self-reported bullying and peer-reported bullying also found low to moderate associations between the two types of reports, and under-reporting of victimization on self-reports (see Cornell & Bandyopadhyay, 2009). Students may be hesitant in admitting bullying behaviors on self-reports due to stigma and potential punitive repercussions, while the self-serving attribution bias, i.e. individuals make attributions that preserve their self-perceptions and protect their self-esteem, may lead to under-reporting of victimization (Österman et al., 1994) in self-reports. The differences observed in the scores of self- and peer-reported bullies and victims in the present study further emphasize the necessity to use a combination of self- and peer-reported estimation in the study of bullying and victimization (Cornell & Bandyopadhyay, 2009).

In the main analyses of the present study, MLR analyses indicated that adding psychopathic traits in the prediction model served as a better predictor of bullying and

victimization than the covariate only model, thus, psychopathic traits in combination contribute towards predicting bullying roles. We found the improved model fit for both self- and peer reports, and in both the initial analyses as well as for the more extreme (+/- 2*SD* for classification) definition of bullying. Thus, in the present study, our hypothesis stating that all three dimensions of psychopathy predict bullies and bully victims at time points T1, T2, and T3, and impulsivity predicts victims at time points T1, T2, and T3 was partially supported as we found a significant model fit with collective psychopathy traits, but not with individual subscale traits, in predicting bullying behavior for both self and peer reported bullying involvement. This leads us to believe that these results are not a statistical artefact, but reflect that all sub-dimensions add a small contribution to the prediction of bullying in order to form a significant combined overall effect.

Similar results have been reported in, for example, genetic research where sets of genes together were found predictive of externalizing behavior, but not individual genes (Windhorst et al., 2016). The results of the current study underscore the statement of Salekin (2016) that all scales of psychopathy should be used with youth. The findings are further in line with Lilienfeld (2018) who asserts that there are benefits to considering the broader syndrome of psychopathy instead of its unique dimensions, because a complete constellation of psychopathy statistically outperforms individual traits of psychopathy, in predicting external criteria in youth, like bullying behavior, as is the case in the present study (see for further discussion Salekin, Andershed, Batky, & Bontemps, 2018).

Furthermore, our hypotheses regarding the covariates, i.e., age, gender, caste, religion, and SES were partially supported. We hypothesized that more boys would classify as bullies, victims and bully-victims than girls, and more students from the non-general category of caste (“lower” caste) would classify as victims than general caste students, more students from lower SES would qualify as bullies, victims and

bully-victims than higher SES children, age would have no effect on bullying roles, and more non-Hindu adolescents would qualify as victims than Hindu youth. In the present study we found that gender predicted bullies and bully-victims for the self-reported scale, where more boys classified as bullies and bully-victims than girls, as observed in past literature (Narayanan & Betts, 2014). Additionally, we observed a unique effect of caste and religion in predicting the victim category at certain time-points for the peer-reported scales, where for caste the "general" caste category predicted victims and for religion the "non-Hindu" category predicted victim groups. These findings illustrate the cultural interference in the study of bullying in India. Nambissan (2009) points out that there is a structural distance between individuals from lower and upper castes, an inequality that is deep-rooted in the Indian society. Lower caste students are commonly made to sit in the corners of the classroom or back rows, are excluded from participation in co-curricular activities, and teachers do not reprimand students of higher caste who bully the lower caste children, thus, perpetuating and normalizing bullying behavior in class. Such favoritism in classrooms may lead to a residual angst among lower caste students, thus reversing into a backlash of victimization of the upper caste students by their peers.

In line with this, the finding in the present study indicates that "general" caste students experience more victimization as compared to non-general students which is contradictory to hypothesis 4. This highlights the *interference* of cultural factors like caste, more than the direction of the association in the given context, where caste based bullying is structurally prevalent between discrete groups, thus, overshadowing effects of individual characteristics, like psychopathy, in predicting bullying behavior. For religion, we observed that the non-Hindu category of religion predicted victim groups, such that more non-Hindu adolescents were victimized than Hindu students in the present study, which is in line with the hypothesis. This finding underlines the working of societal and cultural acceptance of a divide among peer groups in India,

based on its religious framework. There exists an ideological and cultural distance between Hindus and Muslims in India and consequently, Hindu children commonly bully Muslim children (Erum, 2018), reflecting how religious inclusion and exclusion norms in India shape interaction between peers. Such historically constituted divides and cultural practices in India may play a role in normalizing and regularizing bullying behavior in classroom, making it a part of a youth's identity and daily life experiences, and are instrumental in shaping the dynamics and understanding the associations between psychopathy and bullying in India.

Limitations

Data on psychopathy were obtained at one time-point only. However, psychopathic traits are generally stable and not expected to change acutely over time (Lynam et al., 2009). Several other factors, which are beyond the empirically supported risk constructs, for instance, academic performance and youth trauma histories, were not examined in the present study. Additionally, we did not use explicit multilevel modeling to examine a model of transition of bullying behavior over T1, to T2, to T3 that includes slope shape and variance assumptions (Enders et al., 2018), to address the longitudinal and nested structure of data in the current study. Lastly, logistical and methodological challenges encountered while collecting data in India, that have long been recognized and acknowledged in prior research (Hirway, 2010), led to a subsequent loss of data through attrition and exclusion of participants.

Research Implications

The present study concludes that psychopathy dimensions taken collectively are a better fit in predicting bullying behavior beyond socio-demographics, but the dimensions of narcissism, CU traits, and impulsivity, independently are not significant predictors of bullying and victimization in Indore, India. Non-significant findings are of great value in educational research to break the stranglehold of publication bias

(Cooper, Hedges, & Valentine, 2009), specifically when research from western studies are used, rather presumptuously, to design interventions in lower-income countries where indigenous research is sparse. Furthermore, the present study emphasizes the need for cultural replication and cross validation of research in the field of bullying and victimization to determine the extent of generalizability of previous findings (Charak & Koot, 2015). Future research is warranted in this area of study with an emphasis on a more context-specific examination of bullying, and factors that influence bullying.

Prevention and Policy Implications

Because the results from western studies may not be generalizable, professionals in India, with 236 million youth the largest youth population in the world (UNFPA, 2014), cannot build their preventions and interventions on the knowledge base about precursors and consequences of bullying available in the western world. As explained earlier in this discussion, bullying and victimization experiences are connected to power relations and social structures not only within the school community, but also in the wider community. Policies should focus on prevention and intervention in school and find ways to make sure that schools are safe places that are not intruded by powers and conflicts characteristic of the wider community. It seems fair to say that to realize this effort more research is needed.

The present findings assert the need to examine associations between psychopathy and bullying roles using longitudinal designs, and also use multiple-informant reports to assess bullying and victimization in future studies. Effective interventions and school-based programs for bullying should be designed keeping in mind the group dynamics within classroom, school climate and cultural factors in India, in addition to personality traits of students.

CHAPTER FOUR

Body Mass Index and Peer Victimization: A Transactional Model

Published as

Thakkar, N., van Geel, M., Malda, M., Rippe, R. C., & Vedder, P. (2020c). Body mass index and peer victimization: A transactional model. *Aggressive Behavior, 47,* 1-11. https://doi.org/10.1002/ab.21942

ABSTRACT

Past research has shown concurrent associations between adolescent's Body Mass Index (BMI) and classroom bullying victimization experiences. The goal of this three-wave longitudinal study is to examine a transactional model of associations between BMI and bullying victimization among adolescents in India. We investigate concurrent, uni-directional and bi-directional relations between BMI and victimization. In a sample of 1,238 students from nine schools (grades 7 to 9; *M*-age$_{T1}$ =13.15, *SD*=1.16) in Indore (India), we used self- and peer-reports to measure bullying victimization in the classroom, and objective measurement of students' height and weight to collect data on adolescents' BMI, across three waves in one school year. Structural equational modeling was used to test transactional relations between BMI and bullying victimization. For self-reported victimization there was no concurrent or over time association between BMI and victimization for boys or girls in the present study. For peer-reported victimization we observed concurrent associations between BMI and victimization for boys and girls, and a prospective relation where higher BMI corresponded to less victimization over time for boys. The study yielded mainly concurrent relations between BMI and victimization among adolescents in India. Results from western countries may not generalize to India.

Keywords: Body Mass Index; Victimization; Adolescent; India; Transactional Model

INTRODUCTION

Worldwide there has been an increase in the prevalence of obesity among school-going children (Li et al., 2020; WHO, 2018). Body Mass Index (BMI) is the weight to height ratio, where an increased BMI, specific to growth standards of a population, is indicative of overweight and obesity in the population (WHO, 2018). Being obese or overweight among youth are associated with a plethora of adverse physical, psychosocial, and psychological consequences (Li et al., 2020; Sheinbein et al., 2019), one of them being increased risk of being bullied (Van Geel et al., 2014; Waasdorp et al., 2018). However, these results were mostly based on cross-sectional designs that do not allow for analysis of directionality of relations, and the few longitudinal studies that have examined the direction of links have reported inconsistent results (Baldwin et al., 2016; Adams & Bukowski, 2008; Lee et al., 2018; Lumeng et al., 2010). The purpose of the present study is to examine directions in the relation between BMI and victimization, by using a transactional model with data from a three- wave longitudinal study in an urban area in India.

Bullying is a repetitive and intentional act of aggression, in which the aggressor is more powerful than the victim (Olweus, 1993). Investigating the direction of the relation between victimization and BMI raises the question whether adolescents who are obese or overweight are more likely to be victimized, or whether bullied youth run a risk of becoming obese or overweight. On the one hand, past literature reports that weight status plays an active role as a predictor of bullying within the school environment (Janssen et al., 2004; Pearce et al., 2002; Waasdorp et al., 2018). In a longitudinal study (Lumeng et al., 2010), 8 to 11-year-old children who were obese in the US were found to be more likely to be bullied as compared to their non-obese counterparts. In many contemporary societies there is a prevailing stigma attached to children who are obese

and overweight that they are lazy, clumsy, or lacking in willpower (Brewis et al., 2018), and thus, deviating from appearance ideals could put them at a higher risk of being bullied (Brixval et al., 2012).

Contrastingly, weight-based bullying may trigger a disturbed emotional state, which in turn may lead to unhealthy eating habits like binge eating or emotional eating for comfort (Brewis et al., 2018; Copeland et al., 2015). Bullying victimization reinforces an adolescent's negative feelings of self-concept concerning appearance, which leads to depression that in turn results in an increased BMI (Adams & Bukowski, 2008; Lee & Vaillancourt, 2018). Furthermore, depressed mood or decreased self-esteem, that are both commonly found to be associated with bullying victimization (Van Geel et al., 2018), may be precursors of obesity on account of a shared neuroendocrine pathway between depression and obesity.

In the present study, we propose that the relation between bullying victimization and weight status could be studied using a reciprocal-effect or transactional model (Sameroff, 2009). This model indicates a circular path of influence between BMI and victimization, where instead of a unidirectional influence running from BMI to victimization or victimization to BMI, the two factors mutually co-construct each other in a bi-directional capacity (Adams & Bukowski, 2008; Mamun et al., 2013; Midei & Matthews, 2011). One particular longitudinal study in the recent past that examined transactional associations between peer victimization and BMI, found that peer victimization had direct and indirect effects on BMI across a 2-year to 4-year period proving that peer victimization poses significant risk to increased BMI, but also suggesting reciprocal links between victimization and BMI via body dissatisfaction (Lee & Vaillancourt, 2019). In the present study, BMI and victimization are the two constructs that make the context of the model, whereas the direction of influence between the two constructs, whether uni-directional, bi-directional, or reciprocal, refers to the structure of the model. The model builds on previous research by going beyond the examination

of influence of BMI on victimization, to also describe how victimization in turn affects BMI, representing a dynamic and cyclical process in which the two constructs are in a constant flux, and continually redefined by the ongoing process, in a group of non-western Indian youth.

Even though India is one of the fastest growing economies in the world at present, poverty, food insecurity, and malnourishment persist (Jaacks et al., 2015), but also western lifestyles and food habits are increasingly influencing Indian society (Brewis et al., 2018; Kalra et al., 2012; Misra et al., 2011; WHO, 2018). As a consequence, there is a double burden of malnourishment as well as increasing obesity in India (Yang et al., 2019). Inadequate nutrition during infancy and childhood, followed by exposure to high-fat, energy-dense, micronutrient-poor foods combined with a lack of physical activity during adolescence, has made it common to find under-nutrition and obesity existing side by side within the same community, sometimes even the same households in India (WHO, 2018). Furthermore, there is a scarcity of research on the topic of victimization from India, a country with 236 million youth, the largest number by country worldwide (UNFPA, 2014). Moreover, research with longitudinal designs to examine bi-directional associations between BMI and victimization through a reciprocal effect model is completely lacking in India. The present study focuses on cultural replication and cross validation of research in the field of BMI and victimization to determine the extent of generalizability of previous global findings in India (Thakkar et al., 2020).

A significant limitation observed in most past studies is the use of self-reports to measure students' victimization experiences (Adams & Bukowski, 2008; Fox & Farrow, 2009; Mamun et al., 2013), and also to measure height and weight (Lee & Vaillancourt, 2019). Self-reports run the risk of being biased by individual predispositions and shared method variance (Lee et al., 2018). Peer-reports more accurately provide a perspective from a larger group of direct observers (Malamut et al., 2019). In the present study,

the construct of victimization is measured using peer reports as well as self-reports, assuring better validity of the construct measured (Van Geel et al., 2017). We also use objective measurement of height and weight because self-reported data on BMI may be influenced by the student's desirability to adhere to social norms of weight resulting in under-reporting of weight out of shame, or due to students' lack of information about their own up-to-date measurements (Chau et al., 2013).

Furthermore, we assess students' victimization experiences in the classroom, and their weight (BMI) at three time points during one school year. This design allows an analysis of a transactional model. Building on previous literature (Adams & Bukowski, 2008; Mamun et al., 2013), we hypothesize that there will be concurrent, two-term uni-directional relations (i.e., BMI predicts victimization, or victimization predicts BMI) as well as three-term reciprocal relations (i.e., BMI predicts victimization experiences, and these experiences in turn are related to an increase in BMI; also victimization predicts BMI and this leads to further victimization of adolescents). Additionally, given the differences observed in victimization experiences between boys and girls (Thakkar et al., 2020; Griffiths et al., 2006), the present study investigates differences in association between BMI and victimization by conducting separate analyses for boys and girls. Multi-group model testing pathways across genders to compare differences between boys and girls within the same model, albeit interesting, was deemed as beyond the scope of the present research in the interest of the brevity of the study and reporting of results.

METHOD

The study reported here is part of a larger project on bullying and victimization in Indian schools. This dataset has previously been used on a publication about psychopathy and bullying (Thakkar et al., 2019). Here we present only the variables relevant to the current paper.

Participants

Data were collected from nine schools in and around the city of Indore in central India at three time-points with intervals of three months in the school year of 2015-2016. A total of 1,238 students (grades 7 to 9) were included in the analyses (1,120 at T1- 296 girls, 824 boys; 1,036 at T2- 274 girls, 762 boys; and 1,006 at T3- 282 girls, 724 boys). Students completed the questionnaire in either Hindi (*N*= 497; 40%), or English (*N*= 741; 60%), depending the formal language of instruction of the participating schools. Of the nine participating schools, three were public schools (i.e., funded and run by the government) whereas six were private schools (privately owned by non-governmental organizations). Eight schools were mixed boys' and girls' schools, whereas one school was an all-boys school.

Large class sizes with sometimes over 50 students sitting closely together, combined with laxed disciplinary structures have long been identified to complicate data collection processes in India (Bapat, 2016). The current study was also affected by this and therefore some exclusions in data were made to eventually maintain a sample that is consistent with global research standards. The initial sample consisted of 1,908 students from ten schools, between the ages of 11 to 16 years, from grade 7, 8, and 9 (*M* age=13.01; *SD*= 1.15). From the all-boys school, 143 students at T2 were excluded from data collection, due to disturbances and laxed discipline in some classrooms. From Grade 7 of one school, 185 students had received two sets of questionnaires during data collection at T1, one in English and the second in Hindi the next day, because the students found the English questionnaires difficult to follow on day one despite the medium of instruction for that school being English, thus, excluding these students from final analyses. All students (337) of another of the ten participating schools were excluded from the analyses as the school chose to drop out in Wave 3 because of undisclosed reasons and hence, data were missing, not at random. Five students were excluded due to incomplete data on their grade. Consequently, the final sample

consisted of 1,238 students from nine schools.

Beyond the above-mentioned exclusions, students that opted out of the research or were absent during data collection (118 at T1; 202 at T2; and 232 at T3) were marked as missing in analyses. A distinction between who opted out and who was absent during data collection was not made in the present study. Descriptive statistics for age, SES, BMI and victimization scores of the participants are reported in Table 1.

Instruments

Students provided information regarding socio-demographics like gender, grade, age and family affluence. The original English scales used in the present study were translated to Hindi, India's national language, through a formalized translation procedure following guidelines laid by Beaton et al. (2000). Three independent bi-lingual persons (high school teachers) living in Indore, India, forward translated the English scales to Hindi. The three persons then reviewed the discrepancies in the translated versions, and synthesized a fourth unanimous version of the Hindi questionnaires. The Hindi version was then back-translated to English by three other, independent, bi-lingual individuals who were not presented with the original English versions of the instruments beforehand. The two versions, forwarded translated Hindi as well as back-translated English questionnaires, were compared with the original English scale to examine discrepancies in semantics as well as conceptualization. A pilot study was carried out with 60 students (not part of the main dataset) in English, and 60 in Hindi, before the start of the longitudinal data collection. Words identified as difficult to understand or unclear by students in both versions were carefully reviewed and edits were made by consensus of the bi-lingual translators and the first and third authors of the present study. A written report documenting the synthesis and issues addressed in the adaptation of the scales was maintained. Both, Hindi and English, scales were found to show good test-retest reliability as indicated in the paragraphs

below.

Family Affluence Scale II

The Family Affluence Scale II (FAS; Currie et al., 1997) was used to measure socio economic status (SES). This self-report measure consists of four questions, each using a different response scale. FAS was developed so that adolescents can give an approximation of their socioeconomic status. The FAS has been found to be a valid indicator of SES (Boyce et al., 2006), and has been validated for its use with Indian adolescents (Bapat, 2016). Test-retest correlations between Wave 1 and Wave 2, Wave 2 and Wave 3, and Wave 1 and Wave 3 were found to be $r = .73$, $r = .79$, and $r = .75$ for the English questionnaires, and $r = .70$, $r = .77$, and $r = .65$ for the Hindi questionnaires.

Self-reported Bullying Victimization

The Illinois Bully-Fight-Victim Scale (Espelage & Holt, 2001) was used to assess self-reported bullying and victimization. The scale has been found valid and reliable in western (Espelage et al., 2003), as well as Indian contexts (Sharma et al., 2020; Thakkar et al., 2020). We used data from the victim subscale for analyses. The victimization scale consists of four items that measure the experience of victimization from peers (e.g., "Other students picked on me"). Response options for the scales are *never* (1), *1 or 2 times* (2), *3 or 4 times* (3), *5 or 6 time*s (4), and *7 or more times* (5) in the past 30 days. In the present study, Cronbach's alpha for this scale was found to be .81 at T1, .84 at T2, and .85 at T3 for the English questionnaires and .88 at T1, .90 at T2, and .92 at T3 for the Hindi questionnaires.

Peer-reported Bullying Victimization

All students were given a sheet of paper that described bullying behavior on the top in a few words (teasing, fighting, excluding, name calling etc.), and had two columns with a list containing first and last names of all classmates. Students were asked to nominate bullies (circle names in the first column) from their class, and draw a line from the bullies to their victims in the second column. While the number of victims

to be listed was not limited, we set a limit of up to five nominations for bullies to be listed. This was essential to avoid having a chaos of crossing lines and consequently scoring problems. Dyadic nominations of bully and victim status, received by peers from within a class, are found to be a reliable and valid estimate yielding consistent results with other informant reports across studies (Veenstra et al., 2007; Malamut et al., 2019) as well as in the Indian setting (Thakkar et al., 2020). A total score was computed based on the number of times an individual was marked as a victim by their classmates. This total score was changed into proportions by dividing the total score by the number of students in class (Veenstra et al., 2007).

Body Mass Index

Students' height (in centimeters) and weight (in kilograms) were measured objectively using standard weight and height equipment for each wave. Height in centimeters was converted into meters, and BMI was calculated using the formula BMI = weight (kg) ÷ height^2 (m) (Cole et al., 2000).

Procedure

The Institutional Review Board of the Institute of Education and Child Studies at Leiden University approved of the study. A convenience sample was obtained by approaching 15 schools in the school year 2015-2016. Ten schools agreed to participate. Monetary compensation was not offered to any participating school at the outset, however, of the four schools where the Principals requested it, either overtly, or during conversation with the researchers, three schools were given compensation vouchers of a bookstore for each wave, whereas one school was given carpets for the students to sit on in the classroom. Participating students were not offered independent compensation, and students were told that their participation was voluntary and that their answers would not be shared with parents, teachers, or classmates. Furthermore, instructions to the students included that their participation in the research would

bear no consequence on their academic performance, or have any other implications, neither positive nor negative. Regulations of research in India have been identified as different from western context which do not necessarily reflect the requirements of India, especially given complex factors such as culture, level of parental education, demographics and SES of participating schools in India (Bapat, 2016; Nijhawan et al., 2013). At the discretion and recommendation of the Principals of the participating schools, the principals, acting in loco parentis, gave written consent to collect data from students in participating grades 7, 8, and 9. Principals were informed of all the features of the research that may affect their willingness to allow the child to participate, and have been accepted in adolescent research to substitute in place of parents in school settings as responsible adults for children (Malamut et al., 2019). Parents were not invited to give consent, but students were allowed to opt out. Every student enrolled in a class at the participating schools was invited to complete the questionnaire. Most students present at the days of data collection chose to participate; however, some students chose to go to the library or complete their home assignments in the back rows of the class, thus resultingly being marked as absent (missing) in analyses. Thus, a record telling the absentees apart from the students who opted out was not maintained. All attention focused on the students filling out the questionnaires by addressing their questions and keeping them at task during data collection. Given that there was minimal risk in participation for the students in the present study, protection of confidentiality of the information provided, and the voluntary nature of participation where students could opt out of research, the present study deemed cogent support as per global ethical standards (Coyne, 2010; Tigges, 2003), and as seen in western research on bullying (O'Brien & Dadswell, 2020; Pickles, 2020), to conduct research with students by obtaining informed consent from participating students and Principals acting in loco parentis.

The questionnaires were distributed to the students in their classrooms during

a pre-arranged time. There was a team of 20 trained research assistants, who were all first- or second-year master students of Social Work. During simultaneous data collection in multiple grades, at least two research assistants were present in each class, gave instructions and were available to answer any of the students' questions. Students sat next to each other on benches, and were instructed not to look at each other's responses and cover their questionnaires while filling them out. Class teachers helped to keep students on task but were asked not to interfere with completing the questionnaires. The students took approximately 75 minutes to complete the full questionnaire. Research assistants measured students' height and weight by asking each student to step outside the classroom, without removing their shoes. This step ensured that privacy was maintained while collecting information on student's height and weight, thereby, protecting students' BMI information and allowing discretion. The data for height and weight measurements were kept confidential from other students and teachers.

Data Analysis

For the self-reported victim scale, at step 1, we computed means for students who had responded to 80% or more items on the self-reported bully/fight and victim subscales for T1, T2, and T3 respectively, while scale scores for students who had incomplete data on more than 20% items on each subscale in a particular wave were defined as missing. The 80% cut-off rule was in line with the criterion proposed by the authors of the scale (Espelage & Holt, 2001) and necessary as a first step to calculate a mean score for bullying victimization. This score was then used as a variable in the main analyses to examine a transactional model of influence between victimization and BMI. The missings as deduced through step 1 were handled using a Full Information Maximum Likelihood (FIML) estimation in the main analysis as explained in the next paragraph. For the peer-reported victim scales, percentage of times a child was marked

a victim in class was calculated by classroom size (count*100/total number of students in class) (Veenstra et al., 2007).

The transactional model was tested by conducting structural equation modeling analyses using *R version 3.5.1* (R Core Team, 2019). Firstly, to test the uni-directional effects model in main analyses, concurrent associations, i.e., explicit T1 to T2 to T3 factor loadings, between BMI and victimization were examined at baseline. We model these loadings explicitly to find the resulting residual covariance structure for model fit evaluation. Stability effects were investigated by studying regression lines between the same constructs over time. At step 2, cross-paths were added either from BMI to victimization or from victimization to BMI to test for longitudinal one-way effects of BMI on victimization, or vice versa. Finally, to test the reciprocal-effect model, both BMI to victimization and victimization to BMI cross-paths were added to test bi-directional associations between BMI and victimization. Age and SES were accounted for as covariates in the transactional model. Separate analyses were conducted for gender, to examine differences in BMI and victimization association between boys and girls. Data were corrected for between-subjects and within-subjects dependence given the nested structure of the study. Correction of multi-collinearity between variables in nested data is a procedure that, although needed, is underused in analyses in the studies of victimization (Bayaga, 2010). In the present study, both models for self- and peer-reports, for each gender, had standard errors corrected for multi-level robustness to account for residual nesting effects, even though the ICCs for both BMI and victimization ranged between 0.0154 and 0.0876, and can be considered negligible.

Missing Value Analyses

Missing value analyses indicated that Little's (1988) Missing Completely at Random (MCAR) was significant (χ^2 (424) = 670.14, $p < .001$). Data can only be tested for the assumption of MCAR. However, Full Information Maximum Likelihood (FIML) estimation is a sophisticated procedure known to also adequately deal with data that

are not missing completely at random and thus, all statistics reported in the analyses used the FIML estimation (Schlomer et al., 2010). In the transactional model, we used FIML because we computed subscale means for only those students who had responded to at least 80% items or more items on the self-reported victimization scale, and data were still missing for students who had not responded on 80% of the items in certain waves. These missing values were dealt with using FIML estimations in main analyses which allow us to not only include students for whom we had mean scores at T1, T2, and T3, but also those students for whom we had means at both T1 and T2, but not T3, or students for whom we had means for both T2 and T3, but not T1, and thus students with less than 80% responses were also included in final analyses.

RESULTS

Descriptive statistics for the main variables in the study are reported in Table 1. Zero-order correlations (Table 2) show significant positive correlations between BMI scores across time which confirms the stability of BMI. Furthermore, zero-order correlations show that self-reported victimization scores were positively inter-related across time points, and the same was true for peer-reports. Concurrent associations between self- and peer-reports victimization scores were weak, although significant, and inter-rater reliability between the self- and peer-reports of victimization was not significant (Krippendorff's $\alpha > .05$ at T1, T2 and T3) which indicates that self-reported scores yield a different set of victims as compared to peer-reported victims.

Table 4.1.

Descriptive statistics for main variables in the study

	n	***M***	***SD***	**Range**
Age (T1)	1125	13.15	1.11	10
Age (T2)	1028	13.32	1.21	8
Age (T3)	1014	13.60	1.18	7
SES (T1)	1118	4.91	2.29	9
SES (T2)	1027	5.11	2.29	9
BMI (T1)	1025	18.36	3.73	27.59
BMI (T2)	1023	18.53	3.71	29.89
BMI (T3)	954	18.57	3.83	28.22
Self-report victim (T1)	1084	2.13	1.10	4.00
Self-report victim (T2)	1014	2.16	1.13	4.00
Self-report victim (T3)	987	2.18	1.13	4.00
Peer-report victim (T1)	1233	16.49	19.97	94.44
Peer-report victim (T2)	1235	28.89	19.11	80.00
Peer-report victim (T3)	1236	26.72	15.93	88.89

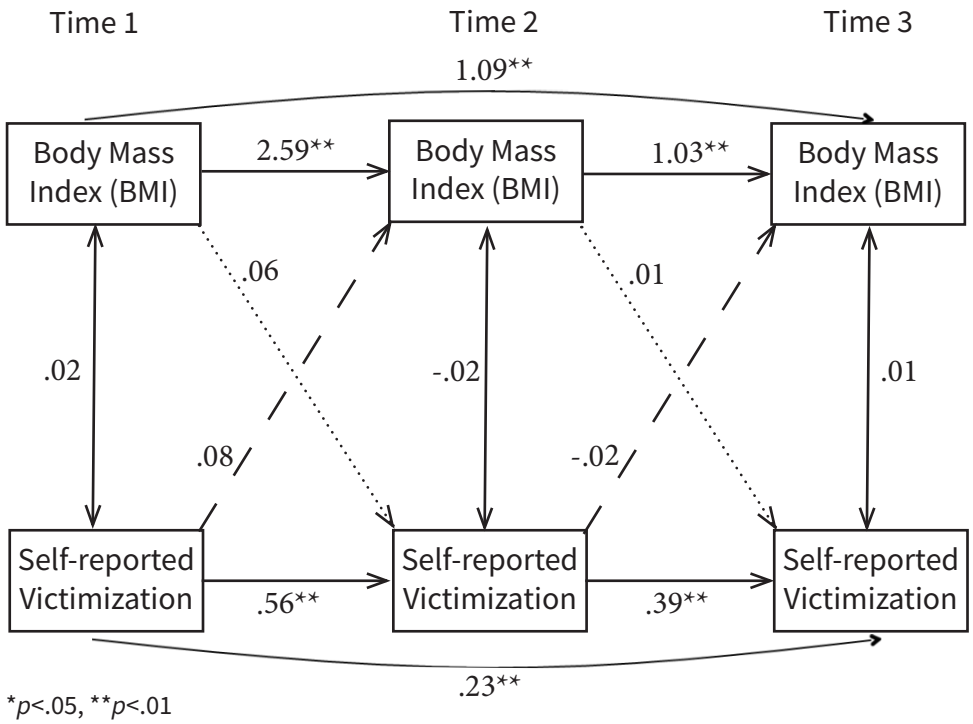


Figure 4.1. *Transactional model of BMI and self-reported victimization for boys*

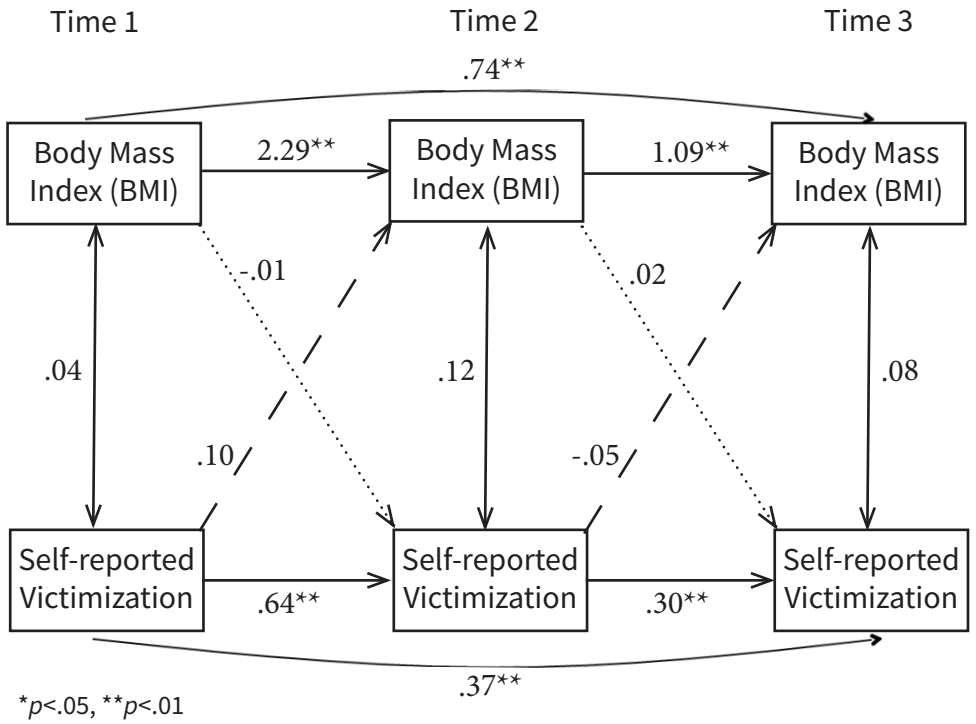


Figure 4.2. *Transactional model of BMI and self-reported victimization for girls*

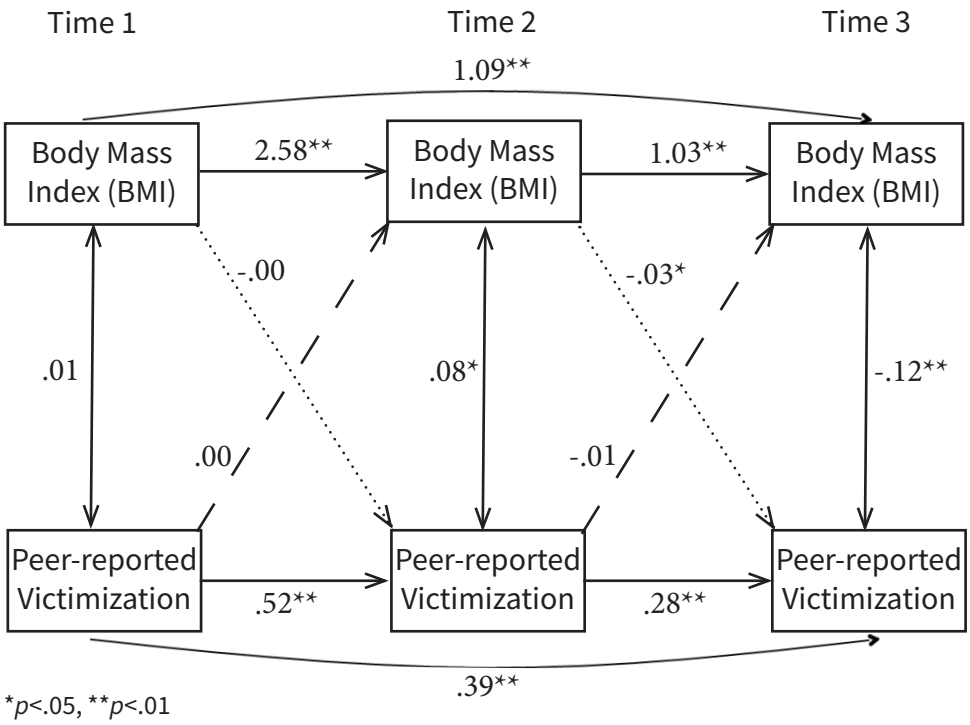


Figure 4.3. *Transactional model of BMI and peer-reported victimization for boys*

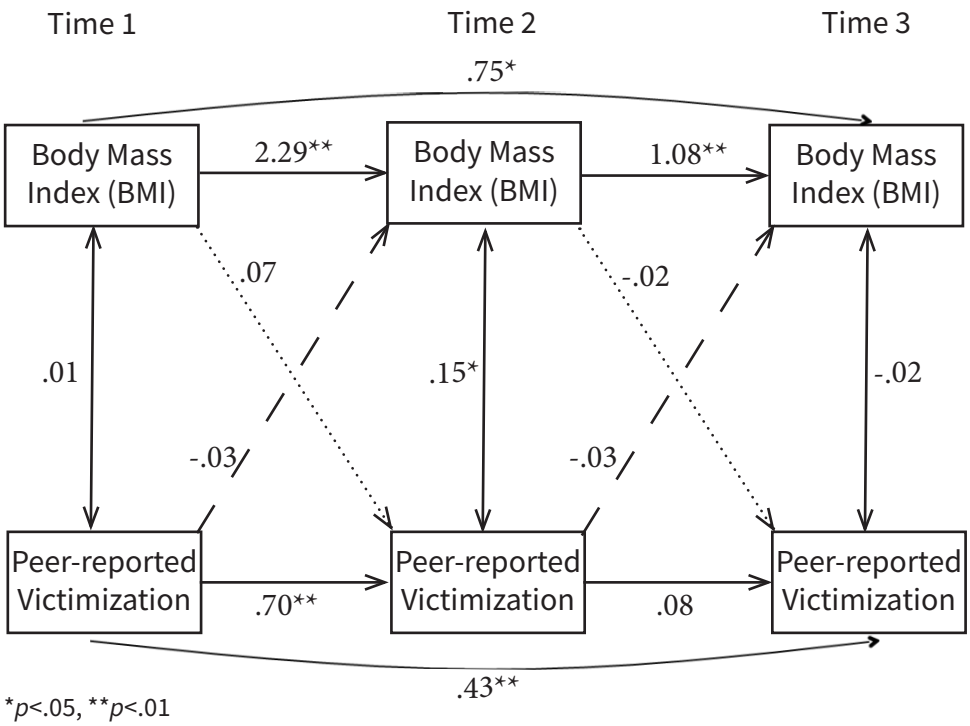


Figure 4.4. *Transactional model of BMI and peer-reported victimization for girls*

With SES and age added as covariates, we conducted separate analyses for boys and girls for self-reported victimization (Figure 1 and 2) and peer-reported victimization (Figure 3 and 4) to examine if BMI predicted victimization, and victimization predicted BMI concurrently, and over time. Stability effects show that BMI predicted BMI over time and victimization predicted victimization over time, for both the genders for self- as well as peer-reports. However, for girls, we observed that peer-reported victimization at T2 did not predict peer-reported victimization at T3 (Figure 4), which we estimate to be a chance non-observation given that stability effects are observed at other time-points. When paths were added from BMI to victimization (dotted line), and victimization to BMI (dashed line), unidirectional effect findings indicated that for self-reports, BMI did not predict victimization concurrently or over-time for boys or girls, and vice versa. For peer-reports, BMI and victimization were concurrently associated at T2 (B=.08, p< .05) and T3 (B=-.12, p< .01) for boys, and at T2 for girls (B=.15, p< .05). Also, BMI at T2 predicted victimization at T3 for boys (B=-.03, p< .05; Figure 3), indicating uni-directional effects over time running from BMI to victimization for peer-reports. Furthermore, when cross-paths were added to examine the reciprocal effect model from victimization at T1 to BMI at T2, and BMI at T2 to victimization at T3 with a direct path from victimization at T1 to victimization at T3, we observed that the bi-directional influence model was rejected for both genders for self- as well as peer-reported victimization. Correlation coefficients reported in Figure 1, 2, 3, and 4 are standardized and are all lagged coefficients.

DISCUSSION

Hypotheses of the present study were that there are concurrent and over time uni-directional effects, two-term bi-directional associations between BMI and victimization, and three-term reciprocal associations such that BMI predicts victimization which in turn predicts BMI, and vice versa. The hypotheses were rejected

for boys and girls for self-reported victimization. For peer-reports, we observed concurrent, and uni-directional over-time associations between BMI and victimization for boys, such that BMI at T2 predicts victimization at T3, however the magnitude of the association is modest, and the direction negative. The reciprocal effect model is rejected for peer-reports for both genders.

Table 4.2.

Zero-order correlations for variables in the study

	1	2	3	4	5	6	7	8	9
1. BMI (T1)	1								
2. BMI (T2)	.94**	1							
3. BMI (T3)	.94**	.96**	1						
4. Self-report victim (T1)	.01	.02	0.6	1					
5. Self-report victim (T2)	.04	.05	.02	.52**	1				
6. Self-report victim (T3)	.06	.07	.05	.42**	.49**	1			
7. Peer-report victim (T1)	.02	.05	.05	.12**	.10**	.09**	1		
8. Peer-report victim (T2)	.04	.06	.06	.22**	.19**	.12**	.48**	1	
9. Peer-report victim (T3)	-.08**	-.03	-.06*	.13**	.14**	.10**	.42**	.38**	1

**Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05 level (2-tailed)

In the present study, we found no significant associations between BMI and self-reported victimization for either gender, whereas peer-reported victimization presented a different picture. Peer-estimation procedures have been reported to be better identifiers of victims as compared to self-estimation procedures in the study of bullying behaviors (Malamut et al., 2019; Salmivalli et al., 1996), but few studies used peer reports (Van Geel et al., 2017). With peer-reports of victimization in the present study, we found two concurrent and one serial significant association between BMI and victimization, which is consistent with past literature (Baldwin et al., 2016; Janssen et al., 2004; Lee et al., 2018; Pearce et al., 2002). The association between BMI and victimization for boys at T2 is positive, whereas at T3 the same association is negative. Furthermore, the longitudinal uni-directional link where BMI at T2 predicts victimization at T3 for boys, also shows a negative direction of influence i.e., higher BMI leads to a decrease in victimization for boys over time. Similar findings have been reported in past research (Griffiths et al., 2006; Lee & Vaillancourt, 2019), where compared to average weight boys, some boys who are obese were more likely to be overt bullies, while other boys who are obese were more likely to be overt victims one year later, suggesting that BMI status has a mixed relationship with victimization among boys. Adolescent boys are more likely to engage in physical bullying as compared to girls (Smith & Ananidou, 2003; Thakkar et al., 2020), and hence, there may be some distinct advantage to being overweight or obese during adolescence for boys, as it may manifest physical dominance through greater strength, and the resulting popularity in the peer group may decrease their risk of victimization. If, nevertheless, they become victims this could be because the boys deviate from appearance ideals or because they experience and show a lack of confidence in interactions with peers (Salmivalli & Peets, 2009). In the present study, we estimate that the change in magnitude of concurrent associations between BMI and victimization, from positive at T2 to negative at T3 could also be due to the fact that victimization of students who are obese does not last long

and the "joke just gets old", or also, as observed in India, boys tend to learn to "deal with victimization on their own" (Erum, 2018).

Furthermore, for the reverse direction of influence, we found that there is no significant association running from victimization to weight gain, for either of the genders, for self- and peer-reported victimization. Similar conclusions have been observed in past longitudinal studies (Lumeng et al., 2010), where non-significant relation between victimization and BMI could mean that peer victimization does not play a direct role in influencing BMI, but it is influenced by other, mediating factors, or a combination of several of them, like self-esteem or stress-eating habits (Giletta et al., 2010; Lee et al., 2017), or through body dissatisfaction as found in recent research (Lee & Vaillancourt, 2018; 2019; Lin et al., 2017; Lunde et al., 2007). It has been found that the relationship between overweight and experiencing physical and relational bullying seem to be mediated by factors associated with a child's weight status like global self-worth, self-esteem for physical appearance and body dissatisfaction (Fox & Farrow, 2009). Brixval et al., (2011) notably confirmed in their study that the relationship between adolescents' weight status and bullying is completely mediated by the role of body image, similar to which, the longitudinal study by Lee and Vaillancourt (2019) found that peer victimization had direct and indirect effects on BMI longitudinally, via body dissatisfaction.

We hypothesized cross-cultural associations between BMI and victimization based on results from previous studies (Van Geel et al., 2014). However, we do not find similar results with self-reports in the present study, and even with peer-reports the findings are not consistent for each observation during the three time-points. One possible explanation for the findings of the present study could be that appearance standards among Indian adolescents are not the same as in western countries. For example, in the contemporary Indian society a protruding belly speaks of a life of "*embodied satisfaction – good social relationships, status, success and health*" (Wilson,

2010). Pells et al. (2016) indicate that in non-western countries like India, not all contributory factors associated with bullying are necessarily linked with structural factors of their associations. For example, in India, "thinness" may reflect malnutrition due to poverty, or obesity may reflect the social elitism of well-fed affluent families. Furthermore, binge eating is not a habit commonly observed among Indian adolescents, because "indulgence" is seen as a *moral* misdeed among the non-upper class people of India and is often criticized in contemporary society (Wilson, 2010). Thus, the present study emphasizes the need to further examine the variables of BMI and victimization, and the association between the two within the *context* of the Indian culture.

Limitations and Conclusion

The present study has limitations. We do not differentiate between the different forms of victimization experiences (physical, social, or relational) (Janssen et al., 2004) in the present study, and hence we cannot speak of their specific associations with BMI. A second limitation of the present study is the considerable number of exclusions made to data due to logistical and administrative challenges encountered during data collection that, although commonly observed in India (Bapat, 2016; Thakkar et al., 2020), may have contributed to the possibility that there were important factors that got missed out in the present study. To this end, the present study maintains transparency in the reporting of exclusions, and strengthens methodological rigor in analyses to overcome this limitation. We conclude that BMI shows a small prospective effect and some concurrent effects in different directions on victimization for boys, however, overall, the transactional model of BMI and victimization is not supported in India.

Implications and Directions for Future Research

Despite the limitations of the present study, the findings are important for school health. This study, while using a rigorous longitudinal design with both self-

and peer reports of bully victimization as well as objective measures of BMI shows that results from previous western prospective studies about BMI and victimization cannot be generalized to an urbanized area in India. Because the results from western studies may not be generalizable, professionals in India, with 356 million youth the largest youth population in the world (UNFPA, 2014), cannot build their preventions and interventions on the knowledge base about precursors and consequences of bullying available in the western world. This calls for new research. Part of the research should again focus on cross-validation especially considering that research findings from western studies are used, rather presumptuously, to design interventions in lower-income countries where indigenous research is sparse (Kalra et al., 2012; Thakkar et al., 2020). School interventions and policies need to go beyond the assumption of peer victimization as a risk-factor in predicting weight gain over time, by examining context-specific variables and cultural factors, appearance ideals and eating habits in India as compared to western countries, in addition to victimization experiences at school (Pells et al., 2016).

CHAPTER FIVE

The Role of Social and Self-Perceived Socio-Economic Minority Status in Peer Victimization in India

5

Submitted and Under Review

ABSTRACT

The aim of the current study is to investigate the role of adolescents' socio-economic status (SES) in bullying victimization experiences among Indian school going youth (grades 7 to 9; *M*-age$_{T1}$ =13.15, *SD* = 1.16). The sample consisted of 1,238 students from nine schools in Indore, India. We used self- as well as peer-reports to measure bullying victimization in the classroom, at three time-points in one school year. Students' SES scores were converted into low, middle, and high SES proportions within classroom to be used as a moderator variable to examine effects of individual's SES minority status on victimization behavior. Students' individual perception of their status was added as a mediator in the growth model framework to realize a mediated moderator approach to study both the effects of contextual minority and majority SES, and the effects of perceptions of the status, on victimization at baseline, and on change in victimization over time. We found that classroom level SES plays a significant role in predicting victimization behavior in schools cross-sectionally at baseline, but also longitudinally over time. This role of the classroom level moderator is mediated through perceptions of self, where individuals who perceive themselves as a minority experience more victimization than students who belong to a minority but do not perceive themselves as such. However, in the long run, being part of a minority, and perceiving self as such, leads to decreased victimization which may point to the normative beliefs, values, and context of the Indian society, warranting future research.

Keywords: Victimization; SES Context; Minority Perceptions; India; Growth Modeling

INTRODUCTION

The prevalence of bullying and victimization among school going adolescents has been recognized and documented globally (Elgar et al., 2015). Very likely, some proportion of youth in any culture and community will perpetrate or experience bullying victimization irrespective of background (Durkin et al., 2012). However, because imbalance of power is an underlying element of bullying (Olweus, 1993), certain contexts may either enable bullying behavior by facilitating a wider imbalance of power, or discourage the behavior by closing the power gap between, in this case, students or adolescents (Campbell et al., 2018; Sidanius et al., 2004). Here we focus on the imbalance of power linked to socio-economic status (SES). Research on the topic of SES and bullying is limited around the world (Tippett & Wolke, 2014), but particularly underserved in India where as compared to the massive population size of the country, academic literature in the field of adolescent bullying is woefully scarce (Thakkar et al., 2020b). The aim of the current longitudinal study is to investigate cross-sectional, as well as over-time, role of the context of an individual by examining the associations between contextual SES and self-perceptions of the persons sharing this context as regards to socio-economic minority/majority status on the one hand, and victimization behavior among Indian school going youth on the other. We simplify the aspects and complexities of this aim in the following paragraphs. The present study uses peer-reports to assess class-room victimization, along with self-reports, bringing added value to this field of research (Van Geel et al., 2018).

SES and Victimization

SES plays a small but significant role in bullying and victimization among adolescents (Due et al., 2009; Tippett & Wolke, 2014). Tippett and Wolke's meta-analysis (2014) suggests that children from lower SES households experience harsher

punishment, restrictive and authoritarian parenting practices, greater levels of sibling violence, and are more often exposed to incidents of domestic violence that affects their ability to form or maintain peer relationships, than higher SES children. This predisposes lower SES children to higher risk for victimization through indirect factors instead of directly observed socio-economic levels. Past studies from India, albeit very few, also have found that SES contributes to distinguishing students who were involved in bullying behavior from those who were not (Sethi et al., 2019). Malhi et al. (2015) found that low SES students scored higher on physical victimization, whereas high SES students scored higher on relational victimization.

Furthermore, in a multilevel study in 35 countries, Due et al. (2009) reported that adolescents who attend schools in countries where SES differences are larger, are at higher risk of victimization. Examining country level, school level, and individual level socio-economic inequality in their study, Due et al (2009) found that for every one-point reduction on the 7-point Family Affluence Scale (FAS), the odds of being bullied increased by 14% after controlling for school and country economic level and income inequality. They further highlighted that it is neither the economic level of the country nor the mean affluence of the school that were associated with bullying, but the *disparity* at the school level (standard deviation of the students' FAS score) and the economic *inequality* at the national level that were associated with the bullying prevalence. Thus, there is socioeconomic inequality in exposure to bullying among adolescents, leaving children of greater socioeconomic disadvantage at higher risk of victimization. An explanation for the relationship between socioeconomic disadvantage and bullying could be that in countries with large economic inequalities like India, hierarchies and status differences are distinctly recognizable in the adult population (Kakar & Kakar, 2009). This may be internalized and then reflected in school children. The normative acceptance of status hierarchies, cultural disparities, and socio-economic inequalities lead to a more segregated society thereby prompting a power imbalance (Campbell

et al., 2018); i.e., a recognized constituent of bullying (Olweus, 1993). In line with this, some studies and theoretical models suggest that it is the *contextual* status, i.e., either being a numeric minority or majority, or being perceived as minority or majority in the classroom setting, which adds to bullying and victimization (c.f., Bellmore et al., 2004; Graham & Juvonen, 2002; Verkuyten & Thijs, 2002).

SES in Classroom Context

It has been found that adjustment of an individual within a peer group is a result of the interaction between characteristics of individuals and their contexts, rather than independent characteristics of an individual alone (Bellmore et al., 2004). Thus, specific characteristics of a student, for instance being of low or high SES, would not necessarily result in bullying perpetration or victimization, because the effect of SES is contingent upon the SES composition of the classroom. A possible explanation could be that individuals who are identified as "social misfits" in a group, are more likely to be victimized or rejected (Bellmore et al., 2004). We examine if individuals from minority SES backgrounds may be more at risk of victimization if they do not "fit" into the majority status of a given context.

Past literature recognizes that being a minority in society with regard to ethnicity, gender, or race is often related with experiences of victimization (Bellmore et al., 2004; Graham & Juvonen, 2002; Verkuyten & Thijs, 2002). However, research examining numeric minority or majority status with regard to SES and bullying is scant, and completely lacking in India. To fill this gap, we examine a class-level factor, i.e., class composition of SES, to understand the association between *SES contextual minorities* with victimization behavior among adolescents. Class SES composition or relative proportions of different SES levels within a classroom may affect victimization behavior depending on the students' similarity or dissimilarity to those around them (Verkuyten & Thijs, 2002).

Perception of Minority and Majority Status

Additionally, in the present study we aim to examine if an individual's subjective *minority perception* of their SES status mediates the relationship between contextual SES status and bullying behavior. Tippett and Wolke (2014) note in their meta-analyses that the statistically weak associations between low SES and victims or bully-victims suggests that the results of the included studies may not reflect a direct association, but rather an indirect mediated relationship. Following up on this idea, we extend the theory and analyze whether it is not the objective measurement of classroom composition and numerical minority or majority status of a student that is directly related to victimization, but the relationship between SES composition and being victimized relationship is mediated by the subjective perception of the students' status. One likely rationale for this is that during classroom interactions, the process in which individuals appraise or view themselves contributes to their adjustment within the context (Graham & Juvonen, 1998; Verkuyten & De Wolf, 2002). Eccles and Roeser (2011) note that peer norms and cultures at the structural level of classrooms or within the school context tend to shape an individual student's sense of self. Moreover, according to the self-categorization theory (Turner, 1987), people perceive themselves to be members of various groups, and this act of categorization may lead to perceptual distortions of self-identification (Verkuyten & De Wolf, 2002) resulting in increased conformity to in-group stereotypes and a maximization of differences with out-group characteristics. Furthermore, such distortions may also overshadow the role of earlier self-identification and self-presentation in discrimination and bullying behavior, and turn *perceptions* of intergroup relationships from less to relatively more important for explaining discrimination and bullying than actual contextual status, or individual peculiarities (Hutnik, 2004).

In line with this, Verma (2004) notes that in high power-distance countries like India, the sense of powerlessness perceived by "out-group" or minority individuals

may promote a fatalistic attitude of apathy and hopelessness, that could lead to an acceptance of bullying behaviors. Following this reasoning, students who qualify as a numeric minority in the classroom in terms of SES may automatically attribute the deviation from the majority to be the reason why they are victimized, and thus tend to accept negative actions towards them more easily than students who are in a numeric majority. Such tendencies of self-blame or internalized self-perceptions are discouraged in contexts where there is diversity or lesser imbalance of power, because diversity provides enough attributional ambiguity to evade self-blame (Bellmore et al., 2004). However, in contexts where social disparities and imbalance of power are unambiguous, self-perceptions surface, which likely play a role in mediating the relationship between SES and bullying behavior, a supposition that the present study aims to investigate.

Present Study

Indian society is hierarchical, and marked by disparities in socio-cultural factors such as SES, religion, caste, gender, and color (Bapat et al., 2016; Kakar & Kakar, 2009). Some scholars identify these disparities as very typical to the Indian context, proposing that such disparities distinguish India from most other countries (Panda & Gupta, 2004). This makes it paramount in a study on bullying and victimization in India to examine the role of socio-cultural factors (Smith et al., 2018; Thakkar et al., 2020b). India houses the largest adolescent population in the world, 356 million youth between the ages of 10 to 19 years (UNFPA, 2014), harboring an enormous repository of adolescent behavior that is underutilized by social science research. The present research aims to bridge this gap in literature by providing a report on SES and bullying behavior within India. Furthermore, the present study adds value to the literature by using self- as well as peer-reports to measure victimization, which strengthens the validity of the constructs being measured (Tippett & Wolke, 2014; Van Geel et al., 2018).

We assess students' perception of minority or majority status at the first time point (T1), and SES and victimization behavior over three time-points in an academic year (T1, T2, T3) which provides us the opportunity to study the associations between SES and victimization longitudinally, and also see change in associations over time, if any. Also, we examine if the relationship between contextual SES and victimization is mediated by perception of majority or minority SES status of the individual. Building upon past literature we hypothesize that:

A. Contextual minorities will experience more victimization than contextual majorities at baseline T1, T2 and T3, and also longitudinally over time from T1 to T2 to T3 (Bellmore et al., 2004; Due et al., 2009). Specifically, in a class of low SES majority, middle and high SES students will experience more victimization than low SES students. In a class of high SES majority, low and middle SES students will experience more victimization than high SES students, and in a class of middle-income majority, low and high SES students will experience more victimization than middle SES students.

B. The above associations will be mediated by individuals' perceptions at baseline and over time, such that, contextual minorities will experience more victimization as compared to contextual majorities, when they also perceive themselves as a minority (Graham & Juvonen, 1998; Hutnik, 2004; Verkuyten & De Wolf, 2002).

METHOD

The study reported here is part of a larger project on bullying and victimization in Indian schools. This dataset has previously been used in a publication about psychopathy and bullying (Thakkar et al., 2019), and BMI and bullying (Thakkar et al., 2020). Here we present only the variables relevant to the current paper.

Participants

Data were collected from nine schools in and around the city of Indore in central India at three time-points with intervals of three months in the school year of 2015-2016. A total of 1,238 students (grades 7 to 9; aged 11 - 16 years, M_{age} = 13.01, *SD* = 1.15) were included in the analyses (1,120 at T1- 296 girls, 824 boys; 1,036 at T2- 274 girls, 762 boys; and 1,006 at T3- 282 girls, 724 boys). Students completed the questionnaire in either Hindi (*N*= 497; 40%), India's national language, or English (*N*= 741; 60%), depending on the formal language of instruction of the participating schools. Of the nine participating schools, three were public schools (i.e., funded and run by the government) whereas six were private schools (privately owned by non-government organizations). Eight schools were co-ed schools, which means mixed boys and girls' schools, whereas one school was an all-boys school.

Large class sizes with sometimes over 50 students sitting closely together, combined with laxed disciplinary structures in classrooms have long been identified to complicate data collection processes in India (Bapat, 2016). The current study is also affected by this, and, therefore, some exclusions in data were made to eventually maintain a sample that is consistent with global research standards. The initial sample consisted of 1,908 students from ten schools, between the ages of 11 to 16 years, from grade 7, 8, and 9. From the all-boys school 143 students at T2 were excluded from data collection, due to disturbances and laxed discipline in classrooms. From Grade 7 of one school, 185 students had received two sets of questionnaires during data collection at T1, one in English and the second in Hindi the next day, because the students found the English questionnaires difficult to follow on day 1 despite the medium of instruction for that school being English, thus, excluding these students from final analyses. One of the ten participating schools chose to drop out in Wave 3 because of undisclosed reasons and thus all students (337) from that school were excluded from the analyses. Five students were excluded due to incomplete data on their grade. Consequently, the

final sample consisted of 1,238 students from nine schools. Descriptive statistics for age, SES, bullying and victimization scores of the participants are reported in Table 1. Beyond the above-mentioned exclusions, students that opted out of the research or were absent during data collection (118 at T1; 202 at T2; and 232 at T3) were marked as missing in analyses.

Instruments

Students provided information regarding socio-demographics like gender, grade, age, and family affluence. The original English scales used in the present study were translated to Hindi through a formalized translation procedure following guidelines laid by Beaton et al. (2000; Thakkar et al., 2020).

Family Affluence Scale II

The Family Affluence Scale II (FAS; Currie et al., 1997) was used at T1, T2, and T3 to measure socio-economic status (SES). This self-report measure consists of four questions, each using a different response scale. The FAS was developed so that adolescents can give an approximation of their SES. The FAS has been found to be a valid indicator of SES (Boyce et al., 2006), and has been validated for its use with Indian adolescents (Bapat, 2016). Test-retest correlations between Wave 1 and Wave 2, Wave 2 and Wave 3, and Wave 1 and Wave 3 were found to be r= .73, r= .79, and r= .75 for the English questionnaires, and r= .70, r= .77, and r= .65 for the Hindi questionnaires.

Self-reported Bullying Victimization

The Illinois Bully-Fight-Victim Scale (Espelage & Holt, 2001) was used at T1, T2, and T3, to assess self-reported bullying and victimization. The scale has been found valid and reliable (Espelage et al., 2003). We used data from the victim subscale for analyses. The victimization scale consists of four items that measure the experience of victimization from peers (e.g., “Other students picked on me”). Response options for the scales are *never* (1), *1 or 2 times* (2), *3 or 4 times* (3), *5 or 6 time*s (4), and *7 or more*

times (5) in the past 30 days. In the present study, Cronbach's alpha for this scale was found to be .81 at T1, .84 at T2, and .85 at T3 for the English questionnaires and .88 at T1, .90 at T2, and .92 at T3 for the Hindi questionnaires.

Peer-reported Bullying Victimization

Students were asked to nominate (circle names of) victims of bullying from a list of their classmates at each of the time-points T1, T2, and T3. The number of victims to be listed was not limited. Dyadic nominations of bully and victim status, received by peers from within a class, are found to be a reliable and valid estimate yielding consistent results with other informant reports across studies (Malamut et al., 2020; Veenstra et al., 2007) as well as in the Indian setting (Thakkar et al., 2020b). A total score was computed based on the number of times an individual was marked as a victim by their classmates. This total score was changed into proportions by dividing the total score by the number of students in class, as was suggested and done in earlier studies (Veenstra et al., 2007).

Perception of Minority or Majority Status

The authors of the study designed a questionnaire to measure if individuals perceived themselves as a minority or majority at T1 in their classroom on the subscales of gender, caste, religion, body weight, and family income. We used the family income question from this scale for the purpose of the present study. Self-reported indicators of family income have been found to be valid measures of socioeconomic index (Tippett & Wolke, 2014). Students were asked to respond to the question "How many classmates have the same financial condition (family income) as your family does?" on a five-point scale ranging from "*none*", *"some*", "*about half*", "*many*", and "*all*", where a lower score is indicative of a perception of minority, and higher score is indicative of perception of majority in a continuous capacity.

Procedure

The Institutional Review Board of the Institute of Education and Child Studies at University approved of the study for the project titled “Bullying and Victimization in (Thakkar et al., 2020)”. A convenience sample was obtained by approaching 15 schools in the school year 2015-2016. Ten schools agreed to participate. No compensation was offered to any schools at the outset, however, four of the participating schools requested it in conversation with the researchers, of which three schools were given vouchers to a bookstore for each wave, whereas one school was given carpets for the students to sit on in the classroom. No student was offered independent compensation for their participation. Instructions to students included that their participation was voluntary, and would bear no consequence on their academic performance, or have any other implications, neither positive nor negative. Students were also informed that their information/responses would be kept confidential and not shared with parents, teachers, or classmates. At the discretion and recommendation of the principals of the participating schools, the principals, substituting as responsible consenting adults for the students in a school setting (Malamut et al., 2020), gave written consent to collect data from students in grades 7, 8, and 9. Principals were informed of all the features of the research that could affect their willingness to allow the child to participate. Students were allowed to opt out of the research. Every student enrolled in a class at the time of data collection was invited to complete the questionnaire, and while most students chose to participate, some students chose to go the library or complete their home work in the back rows of the class. Students who thus opted out of research were marked as absent (missing) in analyses. The questionnaires were distributed to the students in their classrooms during a pre-arranged time. There was a team of 20 trained research assistants, who were all first- or second-year master students of Social Work. During simultaneous data collection in multiple grades, at least two research assistants were present in each class, gave instructions and were available to answer

any of the students' questions. Class teachers helped to keep students on task but were asked not to interfere with completing the questionnaires. The students took approximately 75 minutes for each round to complete the full questionnaire.

Analysis Plan

In the present study, we used a growth model framework to incorporate a mediated moderator approach in longitudinal capacity, with full information maximum likelihood (FIML; Schlomer et al., 2010) estimation to allow for missing values, to study the effects of contextual minority and majority SES status, and perceptions of the status, on victimization within classroom in Indian school-going youth.

Power

A power or sample size calculation to detect a group by time interaction effect in longitudinal growth models could be performed following the approach by Vallejo et al. (2019) for detecting a group effect under assumed heterogeneity of variances between groups, specifically in a directly observed intervention effect over time. The current study has several characteristics which do not allow to use this particular method. Firstly, it concerns a design for which no prior indication of effect size over time is available. Secondly, the models in the current work are based around natural instead controlled groups, which changes the variance assumptions and renders a biased power estimate. Thirdly, our implementation models within-subject latent intercepts and latent slopes instead of group level slopes. Fourthly, and more importantly, these latent intercepts and slopes are projected on a mediation structure. All things combined this would require different conditional power estimates for each sub-model and each individual. There is no way to directly obtain such estimates other than performing a simulation study for each scenario, which would be a study design in itself. However, given the large sample size of more than 1000 participants, having over 10 classes, 2 main groups and 3 time-points, 5% significance level and high power of 0.95, according

to a repeated measures design G*power, this would enable us to already detect a (very) small group by time interaction effect size of f = 0.046. This suggests that the current sample provides sufficient power to detect any effect size exceeding f = 0.046.

Dependent Variable - Victimization

For the self-reported victim scale, we computed means for students who had responded to 80% or more items on the victim scale for T1, T2, and T3 respectively. The 80% cut-off rule was implemented as it is the criterion proposed by the authors of the scale (Espelage & Holt, 2001). Students who had incomplete data on more than 20% items on the scale in a particular wave were defined as missing for the total score. These missings were handled using a Full Information Maximum Likelihood (FIML) estimation in the main analysis of growth modeling. For the peer-reported victim scales, percentage of times a child was marked a victim in class was calculated by classroom size (count*100/total number of students in class) (Veenstra et al., 2007).

Predictor Variable – SES (student-level)

To estimate a student's SES status, at step 1 we calculated a mean score for students on each of the four FAS items from each wave. For example, *Mean* FAS item 1 = (FAS_{T1} + FAS_{T2} + FAS_{T3}) / 3. Similarly, *Mean* scores for FAS items 2, 3 and 4 were calculated for each student. Reliability analysis to check for stability of SES scores across waves confirmed that reliability (Cronbach's alpha) between item level scores for individual FAS items was .86, whereas Cronbach's alpha for sum scores of FAS at T1, T2, and T3 was .92. Given this consistency in SES scores across waves, it was deemed feasible to calculate a mean score for SES items, thereby also deriving a more durable SES estimate for each student. At step 2, a composite FAS score was calculated for each student based on their *Mean* scores to these four items (Currie et al., 1997). We used a three-point ordinal scale, where FAS low (score = 0,1,2) indicates low affluence, FAS medium (score = 3,4,5) indicates middle affluence, and FAS high (score = 6,7,8,9) indicates high affluence (Boyce et al., 2006). These cut-off scores have been validated in a study with

an Indian sample, and were found to be reliable (Bapat, 2016). In the present study, 16.1% (*n* = 180) students qualified as low SES, 42.8% (*n* = 478) students qualified at middle SES, and 41.1.% (*n* = 460) students qualified as high SES in Wave 1. In Wave 2, 13.3% (*n* = 137) students qualified as low SES, 42.4% (*n* = 435) students qualified at middle SES, and 44.3.% (*n* = 455) students qualified as high SES. In Wave 3, 12.6% (*n* = 125) students qualified as low SES, 41.5% (*n* = 413) students qualified at middle SES, and 45.9% (*n* = 457) students qualified as high SES.

Moderator - Classroom Composition and Minority Groups (class-level)

For classroom SES composition, each classroom is distributed into the 3 SES proportions, i.e., percentage of students that classify as low SES, middle SES, and high SES, as created with the above classes of SES, determined and validated through FAS. As per proportions, the group that had the highest percentage of students in each classroom was labeled as "contextual majority", whereas the other two groups were then "contextual minorities". Thus, for instance, if a class had low SES as majority, both middle and high SES students were taken as contextual minorities, or if a class had middle SES as majority, both low and high SES students formed contextual minorities. However, to rule out chance classification, a 5% minimum difference in proportional size criterion was set to allow for the identification of a true minority group in a classroom. For example, without the 5% minimum difference rule, if a particular class had 33% students classifying as low SES, 33% as middle SES, and 34% as high SES, the high-income group could be strictly taken as a majority, whereas both low- and middle-income students would classify as minorities, however, this could be a draw distribution. Therefore, a distribution with a minimum 5% difference in proportions, for instance where 38% students classify as high income, 31% as middle, and 31% as low income, was followed to establish unbiased estimates. Based on this rule, we found that approximately 12% (*n* = 142) of the students qualified as minorities whereas 65% (*n* = 782) of the students qualified as majorities in the present study.

Mediator - Perception of Minority/Majority SES Status (student-level)

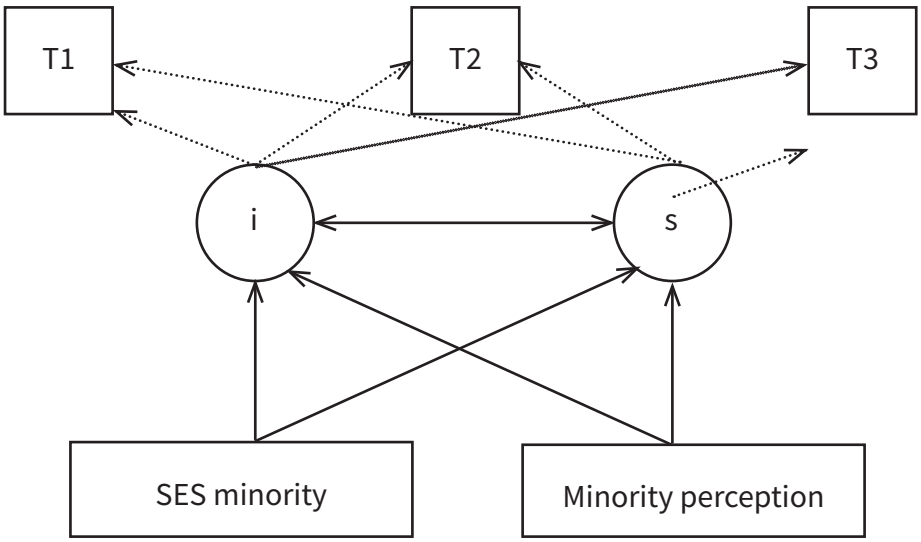
In the growth model, the individual perception of family SES as compared to other students' family SES was added to examine if the effect of perception of a students' SES status as minority or majority explained the relationship between SES and victimization. For main analyses, a set of 5 linear growth models with robust standard errors were run to evaluate individual as well as classroom level effects, on victimization development over time through the mediator (see Figure 1). Each of these models were run separately for self-reported victimization and peer-reported victimization to examine the differences and consistency between the self- and informant approach in bullying victimization behaviors (Cornell & Bandyopadhyay, 2009). In Figure 1, the intercept (*i*) represents victimization (individual baseline differences) as a latent variable at T1, T2, and T3, whereas the slope (*s*) represents the change in victimization over time from T1 to T2 to T3. Model I (M1) refers to a linear growth model, where both *i* and *s* are predicted by SES contextual minority status. Model II (M2) refers to linear growth where minority perception is added to the model, and both *i* and *s* are predicted by minority status + minority perception (corrected for perception).

For mediation analyses, we incorporated the 4-step causal effect approach as proposed by Baron and Kenny (1986) into the growth curve model in Model III, IV, and V as noted below. We first examined if change in victimization over time is predicted by minority status, when baseline differences of victimization at T1, T2, and T3 are predicted by minority status and minority perception, and whether victimization at baseline is mediated by minority perception (moderated-mediation model). To this end, Model III (M3) refers to linear growth where *i* is predicted by minority status + minority perception (direct effect), and this intercept prediction is mediated through minority perception (indirect effect), where *s* is predicted by minority status.

Next, we examined if change in victimization over time is predicted by minority status and minority perception, and mediated by minority perception, when baseline

differences of victimization at T1, T2 and T3 are predicted by minority status. To examine this, we ran Model IV (M4) which refers to linear growth where *s* is predicted by minority status + minority perception (direct effect), and this slope prediction is mediated through minority perception (indirect effect), when *i* is predicted by minority status. Thus, M4 examines if victimization change is predicted by minority status and mediated by minority perception.

Finally, we examined if change in victimization over time is predicted by minority status and minority perception, when baseline victimization is predicted by minority status and minority perception with mediation through minority perception. Thus, Model V (M5) refers to an extension of M3, examining linear growth where both *i* and *s* are predicted by minority status + minority perception, and the intercept prediction is mediated through minority perception. In the above models, all model parameters and standard errors are estimated using robust estimators for skewness.



Note. i = victimization at baseline at T1, T2, T3; s = victimization change over time from T1 to T2 to T3

Figure 5.1. *Growth model for baseline victimization and change in victimization over time predicted by minority status mediated through minority perception*

Table 5.1.

Descriptive statistics and zero-order correlations of variables in the study

		1	2	3	4	5
1	Age (T1)	1				
2	Age (T2)	.85**	1			
3	Age (T3)	.83**	.85**	1		
4	SES (T1)	-.12**	-.10**	-.10**	1	
5	SES (T2)	-.16**	-.14**	-.13**	.75**	1
6	SES (T3)	-.17**	-.15**	-.14**	.76**	.81**
7	Self-report victim (T1)	-.04	-.05	-.04	.00	-.05
8	Self-report victim (T2)	.03	.01	.01	.06	.02
9	Self-report victim (T3)	.01	.01	.01	.06	.05
10	Peer-report victim (T1)	-.06	-.04	-.06	.12**	.14**
11	Peer-report victim (T2)	-.02	.03	-.05	.11**	.11**
12	Peer-report victim (T3)	-.10**	-.08*	-.14**	-.03	.02
13	Minority Perception	.01	.04	.03	.21**	.19**
	n	1125	1028	1014	1118	1027
	M	13.15	13.32	13.60	4.91	5.11
	SD	1.16	1.21	1.18	2.29	2.29
	Range	10	8	7	9	9

Note. T1 = Time Point 1; T2 = Time Point 2; T3 = Time Point 3

6	7	8	9	10	11	12	13
1							
.00	1						
.03	.52**	1					
.02	.42**	.49**	1				
.12**	.12**	.10**	.09**	1			
.11**	.22**	.19**	.12**	.48**	1		
-.01	.13**	.14**	.10**	.42**	.38**	1	
.15**	.07*	.08*	.02	.11**	.13*	-.02	1
995	1084	1014	987	1233	1235	1236	1082
5.17	2.13	2.16	2.18	16.49	28.89	26.72	2.59
2.25	1.10	1.13	1.13	13.97	19.11	15.93	1.19
9	4	4	4	94	80	89	4

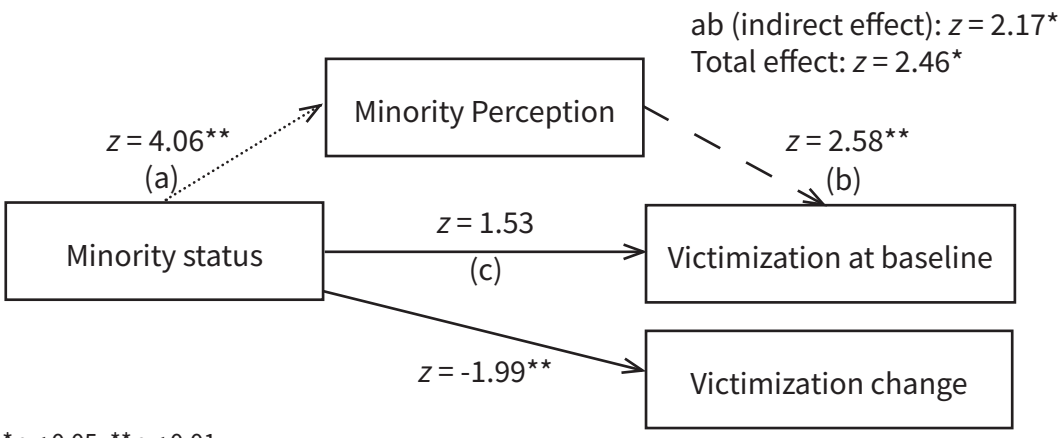
Descriptive statistics for main variables in the study are reported in Table 1. All main analyses were conducted in *R version 4.0.2* (R Core team, 2020). All statistics reported in the analyses used the FIML estimation (Schlomer et al., 2010). The intraclass correlations for the victimization variables, for both self- and peer-reported measures at T1, T2, and T3 were found to be in the range of 0.02 to 0.30 which is considered to be negligible (Shieh, 2016), thus not requiring formal multilevel modeling for analysis. The potential residual effects of nesting were addressed through robust standard error estimation, to resolve the issue of residual higher order nesting variance in the estimation of the natural variability of the main effects, namely the confidence intervals for significance interpretation (Tabatabai et al., 2014). A summary of all growth models is provided in Table 2.

RESULTS

Self-reported Victimization

Hypothesis 1 in the present study states that contextual minorities experience more victimization than contextual majorities at baseline T1, T2 and T3, and also longitudinally over time from T1 to T2 to T3. To test this, five models were analyzed, separately for self-reported victimization, and for peer-reported victimization. For self-reported victimization, M1 shows (Table 2) that there was no significant intercept or slope prediction by minority status, indicating that being a contextual minority in classroom as regards SES neither significantly predicts victimization experiences at T1, T2 or T3, nor predicts the change in victimization over time independently. In M2, when SES minority status and perception were included in the model as joint predictors, it was found that the intercept (*i*) was significantly predicted by minority perception but not minority status, and the slope (*s*) was significantly predicted by minority status but not perception, indicating that individual perceptions of minority significantly predict baseline victimization at T1, T2, and T3, and the change in victimization behavior over

time is predicted by the minority status of an individual when corrected for minority perception.



*p < 0.05; **p < 0.01

Note. .... (a) = direct effect from minority status to minority perception;
--- (b) = direct effect from minority perception to victimization;
__ (c) = direct effect from minority status to victimization

Figure 5.2. *Mediation model 3 for self-reported victimization*

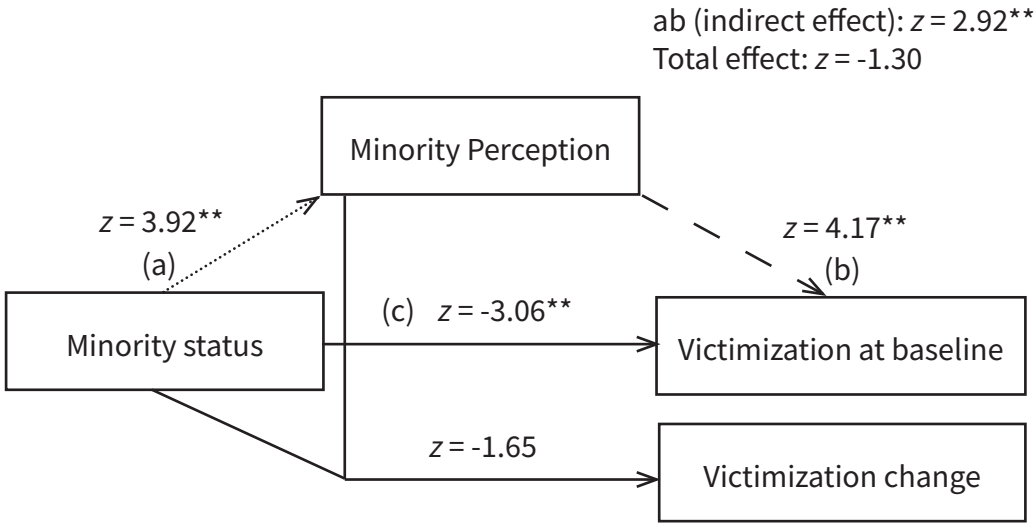
Hypothesis 2 of the present study states that the associations between contextual minorities and victimization is mediated by individuals' perceptions at baseline and over time, such that, contextual minorities experience more victimization as compared to contextual majorities, when they also perceive themselves as a minority. To test this, the 4-step mediation model was examined, following Baron and Kenny's (1986) causal effect approach. M3 (see Figure 2) shows that there is significant positive intercept prediction by minority perception, but not minority status, and there is a significant negative slope prediction by minority status. Furthermore, M3 shows that the total effect as well as the indirect effect of minority status and perception on intercept is significant in the positive direction, and the direct effect of status and perception on the intercept is not significant, thus indicating that change in victimization over time is predicted by minority status, when the intercept prediction by minority status is fully mediated via individual's perception of their minority status. M4 shows that *s* is neither

predicted by minority perception nor minority status, and there is no significant total or indirect effect on *s*, thus change in victimization over time is not mediated through perception. M5 shows that *s* is predicted by minority status in the negative direction when corrected for minority perception, when the prediction of *i* by minority status is mediated by minority perception in the positive direction. M5 also shows significant positive indirect as well as total effect of minority status on baseline victimization, and no direct effect of minority status on baseline victimization, thereby indicating that change in victimization over time is predicted by minority status when corrected for minority perception, and when intercept prediction by minority status is fully mediated via individual's perception of their minority status. Given that both M3 and M5 show significant outcomes, we conducted a chi-square test to compare if M5 is significantly better than M3. The χ^2 test for model difference shows that M5 does not fit significantly better than M3 ($\chi^2 = 1.43$, $p > .05$). Based on the 'Akaike information criterion' (AIC), M3 is the more appropriate and parsimonious model of significance for self-reported victimization, because M5 has more degrees of freedom reflecting the higher number of variables in the model.

Peer-reported Victimization

Examining hypothesis 1 for peer-reported victimization, M1 shows (see Table 2) that there was significant negative intercept prediction by minority status but no significant slope prediction, indicating that being a contextual minority in classroom with regards to SES significantly predicts victimization experiences at T1, T2 or T3, but does not predict the change in victimization over time. In M2, when SES minority status and perception were included in the model as joint predictors, it was found that the intercept was significantly predicted by minority perception in the positive direction, and by minority status in the negative direction, and the slope was significantly predicted by minority perception in the negative direction but not minority status.

This indicates that individual perception of minority has a significant positive effect on baseline victimization at T1, T2, and T3, and a significant negative effect on victimization behavior over time.



*$p < 0.05$; **$p < 0.01$
Note. .... (a) = direct effect from minority status to minority perception;
--- (b) = direct effect from minority perception to victimization;
__ (c) = direct effect from minority status to victimization

Figure 5.3. *Mediation model 5 for peer-reported victimization*

For the mediation model as indicated in hypothesis 2, following Baron and Kenny's (1986) causal effect approach, M3 shows that there is significant intercept prediction by minority perception in the positive direction and by minority status in the negative direction, but there is no significant slope prediction by minority status. Furthermore, M3 shows that there is a significant positive effect of minority status on minority perception, and of minority perception on the intercept. However, the total effect of status and perception on the intercept is not significant, because the direct and indirect effects in this model were found to be in the opposite direction, thus, cancelling each other out. M3 concludes that individual baseline differences for victimization are significantly predicted by minority status via complete mediation through minority

perception. M4 shows that *s* is predicted by minority status, but not perception, and there is no significant total or indirect effect on *s*, thus change in victimization over time is not predicted by minority status and perception through a mediation model of perception. M5 (Figure 3) shows that *s* is predicted by minority perception when the prediction of *i* by minority status is mediated by minority perception, and when the prediction by status of *s* is corrected for perception. Correcting for minority perception in slope prediction, M5 shows that there is significant *s* prediction by minority perception, and significant *i* prediction by minority status in the negative direction, and by minority perception in the positive direction. Furthermore, there is a significant positive indirect effect of minority status and minority perception on victimization change over time, but no significant total effect, thereby indicating that the slope is predicted by minority perception, when baseline victimization is predicted by minority status and perception, and this effect is fully mediated via individual's perception of their minority status (Figure 3). The chi-squared difference test shows that M5 is significantly better than M3 ($\chi^2 = 7.71$, $p < .005$), and thus, losing one degree of freedom to add more variables in the M5 is the more parsimonious model based on AIC in explaining variance. Hence, M5 is the better fitting model of significance for peer-reported victimization.

DISCUSSION

In the present study, we hypothesized that (a) contextual minorities experience more victimization than contextual majorities at baseline and over time, and (b) these associations between contextual minorities and victimization are mediated by individual perception. From Table 2, we can see that for self-reported victimization, hypotheses 1 and 2 were supported for baseline victimization as observed in M3 (see Figure 2), where baseline victimization was best predicted by minority status mediated through minority perception, thereby, contextual minorities

experience more victimization at baseline, and this association is mediated through increased perceptions of self as a minority. This finding concurs with past studies that show bullying is influenced by contextual factors, when these factors are perceived individually (Bellmore et al., 2004; Graham & Juvonen, 1998; Hutnik, 2004; Verkuyten & De Wolf, 2002). M3 also shows that though baseline scores are predicted by contextual SES and mediated through self-perceptions, in the long run, minority status predicts victimization change over time in the negative direction, when baseline victimization is predicted by minority status and mediated through minority perception as expected, concluding that longitudinally, being part of a minority predicts *less* victimization.

In line with this, for peer-reported victimization we observed that the effect of the indirect model and direct model were in opposite directions for baseline victimization, and the consequent total effect was also in the negative direction, i.e., when individuals can objectively be labeled a minority, they do perceive themselves as a minority, which in turn leads to the prediction of more victimization at baseline. In the comprehensive model, however, we observe that minority status is negatively associated with victimization, thus, being a minority predicts *less* victimization. A closer observation of the independent associations for both self- and peer-reported victimization measures thus point towards a support for hypothesis 1 and 2, though in the reverse direction for hypothesis 1 in the present study.

For both self- and peer-reports, we did find that perceptions of self *indeed* mediate the relationship between being objective minorities and victimization experiences. This shows support for the assumptions of mediation in hypothesis 2, but the direction of associations pertaining to hypothesis 1 are negative for direct and total effects from the predictor to the dependent variable as seen in peer-reported victimization for baseline as well as over time victimization, and for over time victimization as seen in self-reported analyses. Though the indirect effects are positive and significant in mediation analyses indicating sufficient support for the causal order

as stated in hypothesis 2 from minority status to minority perception to victimization. The reverse direct effect from minority status to victimization, however, points to the fact that the "true" mediator does not stand out *unequivocally* in the present study (Lemmer & Gollwitzer, 2017). It has been noted in the literature that numerical minority status implies an imbalance of power, which is recognized as an antecedent of bullying victimization (Olweus, 1993; Smith et al., 2018). A possible explanation for the reverse observation could be that being a part of a minority may ward off individual tendencies of self-blame for experiencing victimization, thus, protecting the adolescent from having a reputation as a victim. Bellmore et al., (2004) observe similar findings in their study with regard to ethnicity and adjustment of victims in classroom, where students who were part of an ethnic *majority* status were related to more adjustment problems for victims in the classroom. In their study, they note that self-blaming attributions would surface more assuredly, when an individual was part of the majority group holding the superior power, and was yet victimized. As opposed to this, when a victim was part of a minority group, experiences of victimization may have more possible attributions focusing on the context or other external characteristics rather than doubting one's own sense of self, thereby protecting the victim's self-esteem. A likely explanation for this observation could be an unaccounted mediator that offsets the mediating effects of minority perceptions of self, and protects students who are objective minorities in their context from increased victimization in the long run. Preacher and Hayes (2018) suggest that it is possible for multiple mediators or suppressors to exist in mediation analysis where one may contrast with the potential effects of the other, or that there are other pathways within the model (that operate through latent mediators) that may affect the outcomes in the opposite direction from those under consideration (VanderWeele & Vansteelandt, 2014). Thus, even when children who form a minority do in fact perceive themselves as a minority, other unmeasured mediators like tendency to evade self-blame among minority groups, may be offsetting the mediating effects of

self-perceptions of minorities in the present study, and contributing towards protecting *against* victimization in the long run.

It is also possible that victims adjust to their perceptions of self in the long run. It could be that they learn to deal with it on their own, thus leading to lowered experiences of victimization over time (Erum, 2018). This explanation also fits Sinha et al's. (2010) notion that the core of the Indian mindset constitutes of discrepancies related to inconsistencies in values and belief, and contradictions in behavior. The authors note in their study that "*Indians are enthused by ideals and abstract universalistic norms and principles, but behave as the situation demands*" (p. 4). Thus, there is a tendency to shape social behavior where individuals do "the needful" in an effort to accommodate to the situation. They do so especially in disabling contexts where poor quality of environment and low levels of development breed self-serving calculative behavior. The normative acceptance of bullying behaviors in India (Jaishankar, 2009; Kakar & Kakar, 2009), coupled with the Indian mindset to adjust to the demands of the situation in disabling contexts (Sinha et al., 2010), may contribute to children taking it upon their own to overcome victimization in time caused through minority perceptions of self. This change in victimization experiences further emphasizes the need to examine antecedents and consequences of bullying behavior within contexts over time, to be able to observe not just cross-sectional association, but rather prospective consistencies in victimization experiences through time.

Furthermore, the differences in model fit observed between self- and peer-reports confirm the notion that the combination of both peer and self-reports is advised in the study of bullying victimization and its correlates (Cornell & Bandyopadhyay, 2009). In the present study, while overall patterns, especially the mediating effect of self-perceptions, did not substantially differ between the alternate reports of victimization, we observed nuances in independent associations between self- and peer-reported victimization. The use of multiple measures for bullying victimization enabled us to

observe these attenuations, underlining the importance of this design characteristic of the present study. In the present study, we note that the observations reported through peer-reports of victimization, which are typically seen as a more valid indication of bullying than self-reports (Branson & Cornell, 2009), point to the conclusion that victimization at baseline, as well as over time, is affected by perceptions of self as a minority in a classroom.

In summary, the present study indicates that minority status of an individual with regard to SES within the classroom context plays a significant role in predicting victimization experiences, and predominantly, the reported associations work through an individual's perception of self as a socio-economic minority.

Limitations, Conclusions, and Implications for Future Research

The present study has limitations. We do not differentiate between the different forms of victimization experiences (physical, social, or relational; Malhi et al., 2015), and hence we cannot speak of their specific associations with SES. Data on perceptions of self as a minority with regard to SES were obtained at one time-point only. However, self-perceptions have been typically found to be stable over time (Diehl et al., 2006; McGrath & Repetti, 2002). Furthermore, given that past literature suggests insignificant associations between covariates such as gender, age, and SES (outside of classroom context) (Thakkar et al., 2020a), these covariates were not examined in the present study, which may be acting as mediators leading to decrease in victimization over time for contextual minorities that have not been accounted for in the present study. Additionally, we did not use explicit multilevel modeling to examine a model of transition of victimization behavior over T1, to T2, to T3 that includes slope shape and variance assumptions (Enders et al., 2018), to address the longitudinal and nested structure of data in the current study. However, given the negligible ICC's observed in the present study, and the use of robust standard errors with FIML estimation to correct

for the nested structure of the data, the present study maintains the methodical rigor required to make unbiased inferences.

In the present study, consistent with prior literature (Bellmore et al., 2004), we conclude that classroom level context with regard to SES plays a significant role in predicting victimization behavior in schools. Furthermore, with the added methodological strength of using peer-reports in combination with self-reports, in a longitudinal framework to examine the role of class level predictors, we found that contextual characteristics affect victimization cross-sectionally at baseline, but also longitudinally over time. More pertinent to our hypotheses, we demonstrated that this effect by the classroom level moderator is mediated through perceptions of self, where students who perceive themselves as a minority within classroom experience more victimization than students who belong to a minority but do not perceive themselves as such. However, in the long run, this perception of self predicts decreased victimization which may point to the normative beliefs, values, and context of the Indian society, warranting future research on this topic.

Table 5.2.

Growth model summary for self- and peer-reported victimization

	Independent Variable	**Dependent Variable**
	Self-reported Victimization	
Model 1	Minority status	Victimization at baseline
	Minority status	Victimization change
Model 2	Minority status	Victimization at baseline (joint predictors on the left)
	Minority perception	
	Minority status	Victimization change (joint predictors on the left)
	Minority perception	
Model 3	Minority status	Victimization at baseline
	Minority status	Minority perception
	Minority perception	Victimization at baseline
	Minority status	Victimization change
Model 4	Minority status	Victimization change
	Minority status	Minority perception
	Minority perception	Victimization change
	Minority status	Victimization at baseline
Model 5	Minority status	Victimization at baseline
	Minority status	Minority perception
	Minority perception	Victimization at baseline
	Minority status	Victimization change (joint predictors on the left)
	Minority perception	

Estimate	SE	*z*
0.14	0.09	1.58
-0.10	0.05	-1.94
0.14	0.09	1.57
0.07	0.03	2.80**
-0.11	0.05	-2.03*
-0.2	0.02	-1.25
0.13	0.09	1.53
2.36	0.58	4.06**
0.05	0.02	2.58**
0.11	0.05	-1.99*
-0.10	0.05	-1.92
2.36	0.59	4.04**
0.01	0.01	0.73
0.13	0.09	1.48
0.14	0.09	1.57
2.35	0.58	4.07**
0.07	0.03	2.80**
-0.11	0.05	-2.03*
-0.02	0.02	-1.25

	Independent Variable	Dependent Variable
	Peer-reported Victimization	
Model 1	Minority status	Victimization at baseline
	Minority status	Victimization change
Model 2	Minority status	Victimization at baseline (joint predictors on the left)
	Minority perception	
	Minority status	Victimization change (joint predictors on the left)
	Minority perception	
Model 3	Minority status	Victimization at baseline
	Minority status	Minority perception
	Minority perception	Victimization at baseline
	Minority status	Victimization change
Model 4	Minority status	Victimization change
	Minority status	Minority perception
	Minority perception	Victimization change
	Minority status	Victimization at baseline
Model 5	Minority status	Victimization at baseline
	Minority status	Minority perception
	Minority perception	Victimization at baseline
	Minority status	Victimization change (joint predictors on the left)
	Minority perception	

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

Estimate	SE	*z*
-5.25	1.68	-3.14**
1.24	0.72	1.72
-5.40	1.77	-3.06**
1.29	0.31	4.17**
1.27	0.78	1.64
-0.47	0.16	-2.95**
-5.40	1.75	-3.08**
2.33	0.59	3.93**
0.99	0.28	3.60**
1.24	0.75	1.65
1.26	0.76	1.66
2.37	0.62	3.86**
-0.13	0.15	-0.90
-5.36	1.75	-3.07**
-5.40	1.77	-3.06**
2.33	0.59	3.92**
1.29	0.31	4.17**
1.27	0.77	1.65
-0.47	0.16	-2.95**

CHAPTER SIX

General Discussion

GENERAL DISCUSSION

The purpose of this dissertation was to provide an overview of bullying and victimization behaviors, focusing on literature from previous studies, individual characteristics, and contextual influences among Indian school-going youth. This dissertation contains a systematic review of research on bullying and bully victimization in India. This partly formed the basis for three chapters reporting results from a large, longitudinal study in which we presented students aged 11 to 19 years old with a comprehensive battery of questionnaires consisting of self- as well as peer-reported estimates, at three time-points in a school year. These chapters focus on the deconstruction of associations between socio-cultural background, individual characteristics, bullying and victimizations processes, and classroom contexts. The records were used to differentiate students between bullies, victims, or bully-victim categories, as well as to study unique and group contributions in predicting bullying and victimization outcomes on a continuous scale. The studies investigated cross-sectional as well as over time dynamics among a diverse group of Indian adolescents from distinct socioeconomic backgrounds, castes, religions, and age groups (M_{age} = 13.01, *SD* = 1.15). The present study ensured careful handling of missing responses, further establishment of psychometric properties of the original and translated versions of the instruments used, and complex and robust analysis techniques. This thesis presents several significant contributions to advance our understanding in the field of bullying and victimization, especially in the Indian context.

Scope of Bullying Research in India

There is a wealth of comprehensive literature from western countries that examines the topic of bullying and it's correlates both, cross-sectionally and longitudinally (Elgar et al., 2015). However, research from India on this topic is scant.

To give a glimpse into the problem, for chapter 2, the systematic review, we had run a database search in April 2019 on PubMed for "USA and bullying" vs "India and bullying", and found that for every 30 hits for studies in USA on bullying, there was 1 hit for the same in India. The population of India is now close to 1.4 billion, making it the second most populous country in the world. The country accommodates an adolescent population of nearly 253 million that accounts for almost one-fifth of the country's total population, and the largest adolescent population by country in the world, inhabiting almost 36% of the world's youth population (UNFPA, 2014; UNICEF, 2019a). Despite these figures, research on bullying among adolescents from India is strikingly limited, as compared to studies conducted on bullying globally. The present study advocates that with meaningful investment in research and access to resources, there is a promising opportunity in social and behavioral sciences research to yield a welcome transformation in the scope and understanding of youth behaviors in India.

Chapter 2 highlights that overall the conclusions drawn from the included studies are comparable to western literature. In India bullying perpetration was found to be prevalent among 7% to 31% as per the included studies, while bullying victimization estimates ranged between 9% to 80% (Kshirsagar et al., 2007; Maji et al., 2016; Thakkar et al., 2020). Victimized youth face adverse cognitive and physical consequences like anxiety, depression, social withdrawal, school phobia, vomiting, catastrophizing, self-blaming, or sleep disturbances (Kshirsagar et al., 2007; Maji et al., 2016), while bully-victims are more likely to struggle with behavioral problems and academic difficulties (Malhi et al., 2014; Sarkhel et al., 2006). Furthermore, the systematic review shows that not only is past literature on this topic from India scarce, but also based on the quality of existing research, we recognize great capacity of improvement in terms of methodological rigor, data collection processes and instrumentation, use of sophisticated statistical approaches, and presentation of the findings in future studies. The vast adolescent population of India provides ample opportunity and resources

within India, as well as internationally, to further our understanding in the field of bullying. Use of longitudinal designs in particular to study the topic will add to the understanding of antecedents and consequents of bullying (Ployhart & Vandenberg, 2010). Validation studies to provide standardized instruments and assessments for the Indian population need to be developed, and a multiple-informant approach to achieve a global assessment of bullying behavior should be followed (Branson & Cornell, 2009). Cultural replication and cross validation studies to ascertain the generalizability, and applicability of previous findings from India is necessitated.

Main Findings from Empirical Studies

In the present study, we started with the hypothesis in chapter 3 that associations between bullying and psychopathy as found in western studies (Fanti & Kimonis, 2013; Van Geel et al., 2017), would be replicated in India. Research on associations between psychopathy and bullying have significant implications (Van Geel et al., 2017), and yet to the best of our knowledge and from Chapter 2, we note that no prior longitudinal studies have been conducted in India to study this relationship. For individual personality characteristics of psychopathy subdimensions, namely, narcissism, callous-unemotionality (CU), and impulsivity, and its associations with bullying behaviors, chapter 3 found that the collective constellation of psychopathy performs better in predicting bullying behaviors in classroom as opposed to the individual subscale traits of psychopathy. This is in line with past research where it has been found that all subdimensions of psychopathy, added cumulatively, contribute to form a broader syndrome that predicts youth behavior like bullying and victimization, better than independent dimensions or traits (Lilienfeld, 2018). The results of the current study thus reaffirm that for predicting bullying and bully victimization it is best to use all scales of psychopathy (Salekin, 2016).

For the covariates of gender, caste, and religion, chapter 3 shows significant

associations in predicting the likelihood of children being a bully or victim. These findings, however, were not consistent across each time-point for the self- and the peer-reported scales. Thus, we do not conclude that there is a direct pathway from these socio-cultural variables to bullying and victimization. Nonetheless, we alert future researchers of the socio-cultural interference of contextual components in India. Several circumstantial, societal, and cultural adversities may be possible sources of problem behavior in India (Smith et al., 2018), as also suggested by the social-push hypothesis (Ray et al., 2016), which implies that individual characteristics predict problem behaviors more assuredly in contexts that are less harmful. In this light, chapter 3 proposes that in the study of bullying and psychopathy, the negative impact of social adversities overshadow the predictive influence of psychopathy on bullying behaviors. Chapter 3 highlights that more prominent than the *direction* of associations between the covariates and bullying behaviors, or individual personality characteristics and bullying behaviors, is the contextual "noise" that surrounds these associations among Indian youth that requires further attention. Studies contextualizing the factors associated with bullying in India may contribute in designing effective, tailor-cut interventions for bullies with psychopathic traits.

Chapter 4 of the dissertation investigated concurrent, unidirectional, as well as bidirectional associations between Body Mass Index (BMI) and victimization experiences among adolescents in school. Bullying behaviors, as well as overweight and obesity, are commonly prevalent across the world (WHO, 2020). However, reported associations between these two constructs have been inconsistent in past studies (Adams & Bukowski, 2008; Janssen et al., 2004; Pearce et al., 2002, Lumeng et al., 2010). The present study yielded mainly and almost exclusively concurrent relations between BMI and victimization through a transactional model of analyses. Concurrent associations between weight status and victimization have been reported in several past studies as well (Van Geel et al., 2014), however, we add to previous literature on

associations between BMI and victimization (Janssen et al., 2004; Pearce et al., 2002) that in a longitudinal capacity there is no direction of influence from BMI to victimization or vice versa, i.e., not only does victimization play no role in predicting weight status over time, but neither does weight status predict odds of being victimized over time. A possible explanation is that peer encounters related to appearance are shaped by mediating factors like subjective perceptions of weight, body image, depressive symptoms and self-esteem, or psychosocial constructs of adjustment (Fox & Farrow, 2009; Giletta et al., 2010; Reulbach et al., 2013). It has been noted that the onset of adolescence is likely to trigger a high salience of body image and appearance (Reulbach et al., 2013), which may be of particular importance in shaping peer relationships at the sensitive age of adolescence. In line with this, past studies have indicated that it is the subjective perception of body weight, that makes children susceptible to different forms of victimization (Falkner et al., 2001), where overweight and obese children reported significantly more victimization than their non-overweight peers, however, global self-worth, self-esteem for physical appearance and body dissatisfaction each fully mediated the paths between weight status and victimization (Brixval et al., 2012; Fox & Farrow, 2009; Reulbach et al., 2013). We estimate that the non-significant longitudinal associations could thus point to these mediating factors playing a role in BMI and victimization associations in the present study.

Another likely explanation for the null-findings from the longitudinal data-analyses could be that associations between BMI and victimization cannot be easily and directly drawn from global findings in India. It has been observed that Indians have more abdominal obesity and excessive fat percentage, though they do not have high BMI (Banerji et al., 1999), as compared to other cultures. Also, beauty standards among Indian adolescents may not be the same as western countries, and thus, deviation from those standards may not directly lead to peer victimization in the Indian context. Moreover, binge eating is not a habit commonly observed among Indian adolescents.

For example, the Indian doctrine is that a good Hindu child would eat "vegetarian home-cooked meals", while non-traditional "modern" food is perceived as a spoilt habit, where parents and elders criticize, discourage and even reprimand adolescents that indulge in outside fried, non-vegetarian or unhealthy meals (Wilson, 2010). Wilson (2010) further notes that the Hindu community in general is skeptical about modern ways of life. Thus, eating habits cannot be easily decoupled from other cultural contexts in India such as family affluence, social status, gender, religion and the interaction between them. These factors may further interfere with associations between BMI and peer victimization. The present study is one of the first studies to examine longitudinal associations between BMI and victimization with a group of Indian adolescents, and thus the possibility of comparative analyses is restricted. In summary, through chapter 4 we highlight that standalone concurrent associations between BMI and victimization were found to be significant as also seen in past research, however, the non-significant longitudinal associations could only be discovered and nuanced given the methodological design of the study.

The systematic review of past research as well as the findings from the empirical studies in the present dissertation implicated that context and self-perceptions, play a significant role in predicting bullying behaviors in India. Chapter 5 in the present dissertation focuses on the socio-economic status (SES) of an adolescent, the context of this status in their respective classroom, plus self-perceptions of adolescents sharing this context in classroom to examine bullying victimization outcomes. Additionally, in this chapter we employ a longitudinal mediated moderation design. Mediation implies cause and effect; a basic condition to be fulfilled in mediation analyses is that the cause precedes the effect (Ployhart & Vandenberg, 2010), thus requiring longitudinal data to observe the antecedents and consequents. However, few studies utilize a longitudinal mediation design (Maxwell & Cole, 2007). The optimized use of the longitudinal data in this thesis, addresses this concern. It was found that belonging

to a contextual minority group with respect to SES in a classroom (being low SES in a high- or middle-income classroom context or vice versa) indeed predicts more experiences of victimization in adolescents when measured cross-sectionally as well as over time. Moreover, longitudinal mediation analyses yielded that the associations between being a contextual SES minority and victimization experiences are mediated via perceptions of self as a minority. This indicates that in a growth model perspective, first comes the construct of objectively being high or low on a socio-economic spectrum which, secondly, would be linked to the recognition that an individual belongs to a socio-economic minority in a particular classroom context, followed by, thirdly, the perception of self as a minority in the respective context, and, fourthly and finally, the experience of victimization among adolescents. Looking at the first sequence of the association, it has been reported in past studies that lower SES children are predisposed to higher victimization experiences in general around the world (Due et al., 2009; Tippett & Wolke, 2014), as also in India (Sethi et al., 2019). For the second order of sequence, we find that not only is the objective measurement of SES significant in predicting bullying behaviors, but there is a significant implication in further breaking down the SES measure with regard classroom SES composition, or relative proportions of different SES levels within a classroom. This means that the subjective context plays a role in predicting victimization. Similar findings have been reported in past literature, where belonging to a minority group with regard to ethnicity, gender, or race within a classroom is found to be associated with experiences of victimization depending on the students' similarity or dissimilarity to those around them (Bellmore et al., 2004; Verkuyten & Thijs, 2002). We extend that this claim also stands true for the construct of SES where classroom SES compositions affect victimization behavior. Furthermore, a third key factor in this sequence of observations is that the contextual status of an adolescent predicts victimization through the construct of self-perception. The three chain links thus add up to the fourth outcome response, victimization. Consequently,

we establish through the present study that when students not only come from a less affluent background, but also when they are surrounded by a dissimilar context where peers are more affluent than them, and when the students thus perceive themselves as belonging to a minority, together this will best predict distinct victimization experiences in classroom.

Chapter 5 not only clarifies the time sequence of these associations, but also shows that the direction of these association changes over time. The growth model analysis showed that though baseline scores are predicted by contextual SES and mediated through self-perceptions, in the long run, minority status predicts victimization change over time in the negative direction. This means that longitudinally, being part of a minority in an Indian classroom predicts *less* victimization. Thus, despite the clarity in the mediated nature of the associations between SES and victimization, the "true" mediator, yet, does not stand out unequivocally in the present analyses. We suggest a possibility of multiple mediators (Preacher & Hayes, 2008) contributing towards or against victimization experiences in classroom contexts. Chapter 5 further emphasizes the need to examine antecedents and consequences of bullying behavior within contexts over time, to be able to observe not just cross-sectional association, but also prospective consistencies and change in victimization experiences through time as seen in chapter 5.

Implications and Future Directions

Importance of Multiple Informants

The majority of the studies included in the systematic review in chapter 2 made use of only one informant, i.e., self-reported data to estimate bullying behaviors among adolescents. However, as observed in the empirical studies in the present dissertation, for almost every association with bullying behaviors, there is a discrepancy in reports for self-reported assessments and those for peer-reported assessment. There is a

generally low to moderate agreement between self- and peer-reported estimates of bullying behaviors in past studies as well (Graham et al., 2003; Pellegrini & Bartini, 2000). For instance, a meta-analytic study on psychopathy and bullying found that for studies on CU traits and bullying, the effect sizes were higher for studies that used self-reports to measure bullying as opposed to studies that used peer-reports (Van Geel et al., 2017). We found in chapter 3 that while 6.3% to 7.7% students classified as bullies in our study on the self-reported scale, between 10.3% and 15.1% students qualified as bullies on the peer-reported scale. The peer-reported scale also yielded a higher percentage of victims as compared to the self-reported scale in chapter 3, with low correlations between the two reports on bully and victim categories. Similarly, Cornell and Brockenbrough (2004) found that only 15 students (4%) in their sample of 416 students identified themselves as frequent bullies but peer-reports provided a different picture where 77 students (19%) were nominated as bullies by two or more classmates. Also, past research has established that there is very little overlap between the two types of measures for bullying behaviors (Baly et al., 2014). Both, self- and peer-reports have advantages and are valid approaches, however, both are susceptible to certain biases, making neither more "superior" than the other (Gromann et al., 2011). Self-reports provide information directly from the source and are unique with regard to the responder's perception (Cornell & Bandyopadhyay, 2009). At the same time, they run the risk of being biased due to social desirability leading to under or over reporting of bullying behaviors (Salmivalli et al., 1996). Whereas, peer-reports are less subjective, but may end up providing incorrect information because of lack of information about the nominees. Self-reports of victimization have been found to be associated with negative adjustment outcomes and internalizing problems like depressed mood, anxiety, loneliness, and negative self-perceptions (Juvonen et al., 2001; Maji et al., 2016), whereas peer-reports are stronger in predicting status outcomes and interpersonal relationships associated with rejection and less acceptance in groups for victims and

bullies (Gromann et al., 2011). Furthermore, peer-reports more accurately provide a perspective from a larger group of direct observers (Gromann et al., 2011), decreasing measurement error and providing unbiased results (Cornell & Bandyopadhyay, 2009). We thus conclude that self- and peer-reports yield a separate set of bullies and victims and thus advocate simultaneous use of both estimates in this area of research through the present dissertation.

The use of peer-reports thus supports construct validity in youth victimization studies as in the present study, representing an alternative to self-report findings in the study of bullying (Ladd & Kochenderfer-Ladd, 2002). The use of multiple informant approach in addition goes beyond the study of bullying to congregate to a broader implication in the field of adolescent and child mental health assessment in general (Kaurin et al., 2016). Traditional research has established that convergence, or agreement, between multiple informants provides a global assessment of functioning of the child (De Los Reyes et al., 2015). The combination approach further allows researchers to examine specific predictions about incremental and construct validity of the measurements used. We thus advocate using a multiple informant approach in a wide variety of emotional and behavioral problems, including bullying to overcome the above-mentioned limitations and capture best results (Baly et al., 2014; Branson & Cornell, 2009; Ladd & Kochenderfer-Ladd, 2002).

Importance of Longitudinal Studies

The present dissertation throughout highlights that bullying and victimization among youth is not a static phenomenon that occurs at a single time point in an adolescents' developmental span. It rather is a dynamic and repetitive process that changes with complexities as adolescents' transition and develop socially and biologically (Swearer et al., 2017). The majority of past studies from India are cross-sectional in nature as seen in the systematic review in chapter 2 of this dissertation. Chapter 4 revealed that there were indeed concurrent associations between BMI and

victimization as seen in past research, however, these associations disappeared for over time observations. This indicates that an increase in objective weight status would not necessarily predict increased victimization experiences, a finding to be considered while investigating risk-factors to bullying behaviors and designing preventative interventions. In addition, chapters 4 and 5 suggest that the strength and eventually the direction of associations between BMI or SES context and victimization *reversed* over time, indicating a change in the cumulative impact of bullying behaviors with time. This could mean that earlier victimization experiences entice resilience among students, or possibly they get used to it. In any case it looks as if that what happens protects them from being predisposed to future victimization experiences when later on being faced with victimization attempts. The longitudinal design in the present dissertation allowed to capture change, particularly with two important benefits: (a) to examine within-unit change or growth trajectories across time, and (b) inter-unit differences in change that permit prediction (Ployhart & Vandenberg, 2010).

These observations in the present dissertation could not have been derived through basic cross-sectional designs alone. The fundamental findings that have been implied through cross-sectional studies in past research may not be representative of the full picture, rather may even be misleading in this field of study. It has also been noted that a minimum number of three repeated measures suffices as *best practice* to ensure reliability of a longitudinal design (Singer & Willett, 2003) as undertaken in the present dissertation. We explored nonlinear and/or discontinuous growth models as seen in chapter 5, as well as a reciprocal model for bi-directional influences in chapter 4 to conclude that although bullying behaviors may be present at a single time point, the same students may not be continued to be bullied over time. This is also in line with the network analysis approach (Borsboom & Cramer, 2013) that reports that time-intensive data is methodologically advanced not only in studying causal inferences from one construct to another, but also to predict future development of an outcome

through dynamic networks, beyond elementary intra-individual and between-subject observations. Borsboom and Cramer (2013) establish in their study of mental health that disorders are not outcomes of neatly manifested causal backgrounds, rather a system of causally connected symptoms that need to be represented, analyzed, and studied in their full complexity. We thus encourage future researchers to employ longitudinal designs to yield information about temporal precedence, thereby allowing an examination of which phenomena are causes and which effects, and examine patterns of chains of causes and consequences and the interplay between them.

Limitations and Conclusion

The present study has several limitations. Despite entailing a comprehensive report on traditional bullying in schools, the systematic review does not include a report on cyberbullying, which is an important factor in bullying behaviors in today's world of technology and social media (Hase et al., 2015; Mishna et al., 2012; Schneider et al., 2012). Research on cyberbullying may contribute towards significant findings in India where relatively most social mobile accounts belong to young people (UNICEF, 2019b). Furthermore, in this dissertation, we do not differentiate between the forms of bullying and victimization behaviors, i.e., physical, social, or relational bullying (Janssen et al., 2004). Past literature, as seen in chapter 2, indicates that there are differences between forms of bullying with regard to gender and caste (Malhi et al., 2014; Skrzpiec et al., 2015). Future research thus considering these aspects of the Indian context may help further understand the dynamics and correlates of victimization experiences in youth. Another limitation of the present study is in the methodological framework, where considerable number of exclusions were made from the originally collected data. Research in India, as opposed to western countries, has been depicted as ridden with logistical and administrative challenges as commonly observed in past studies (Bapat, 2016; Smith et al., 2018), especially pertaining to longitudinal study designs. The Indian

education system faces several challenges such as over-centralization, bureaucratic structures and lack of accountability, transparency, or professionalism in addition to insufficient resources and facilities (Sheikh, 2017), leading to inadequate focus on research at schools overall. To add to this, school quality with regard to infrastructure is poor. For instance, there is limited and unequal access to drinking water, toilets, furniture, teaching aids, books, fans, etc. in government or lower SES schools (Kingdon, 2007), while classroom sizes (number of students per class) are large. This makes it common for researchers to encounter multiple challenges in collecting "clean" data from schools in India.

Due to the aforementioned data exclusions, it is possible that certain important factors have got overlooked in the present study resulting in the possibility of bias in the findings (Ployhart & Vandenberg, 2010); for instance, an in-depth comparative analysis of data missing at random (MAR) and systematic or deliberate exclusions, i.e., data missing not at random (MNAR), is missing. The present dissertation tried to compensate for the omissions by maintaining a detailed description and transparency in the reporting of exclusions as well as carefully applying sophisticated statistical techniques (for instance, sensitivity analyses) to strengthen methodological rigor in analyses and findings. Robust techniques like FIML estimations have proven to be effective in handling problematic data that is MNAR (Enders, 2018) and should be employed in future research.

The present study concludes that overall bullying is common in India, as it is globally, and it has many risk-factors as well as consequences among adolescents, some that are typical to the Indian context. There is considerable amount of socio-cultural influence in bullying behaviors in India, like through caste or religion, that go beyond individual adolescent traits such as psychopathy, weight status, or objective SES. Research from western cultures may not be applicable in India. Furthermore, the differences observed in the present dissertation between concurrent and overtime

associations in bullying behaviors cautions future researchers that cross-sectional associations, especially from outside India, may not be representative of the full picture of bullying behaviors. Worldwide, there are several bullying- and aggression-prevention programs being implemented in schools (Leff et al., 2004), however, data on prevalence estimates, bullying correlates, and subsequent interventions designs are woefully scarce in India. One intervention program in India, the SEHER program in Bihar (Shinde et al., 2018), focuses on activities at the school level (awareness generation, wall-magazine, speak-out boxes, school health promotion committee), at the group level (workshops and talks for groups of students), and at the individual level (counseling and referral services for students). They found that the intervention had substantial benefits in school health when delivered by lay counsellors, but no impact on health-related outcomes when the intervention was delivered by teachers. Another intervention design in India, the multicomponent school-based intervention in Chandigarh (Rana et al., 2018), is based on the social ecological model that focuses on individual level (students), relationship level (parents and teachers), and community level (school) factors to reduce school-based bullying. The expectation of the quasi-experimental design used in the study is that the burden of bullying perpetration is decreased. The authors suggest that the study may guide policy makers on formulating guidelines for a broad implementation of the program. The present dissertation aims to provide future researchers with the context of bullying behaviors in India. Despite the abundance of programs globally, clarity regarding the success of anti-bullying programs as well as critical components of effective anti-bullying programs are unclear (Hymel et al., 2015), requiring attention and additional efforts in the future, in India and worldwide. Future programs could include not only individual level attributes, but also consider group dynamics as well as contextual factors like caste, religion, gender, age, or SES in India when to design effective interventions for bullying behaviors.

SUMMARY

This dissertation focuses on the overall study of bullying behaviors, as well as scrutinizes the nuances of these behaviors among school-going youth in India. Previous studies from India on bullying yielded a wide variety of partly conflicting findings. Chapter 2 of this dissertation provides a systematic review of past literature from India, while the next three chapters report results from our empirical studies on the relations between bullying, victimization, their predictors and consequences.

Chapter 2 of this dissertation presents a systematic review of literature from India on the topic of bullying and victimization among school-going adolescents. We comprehensively synthesize and discuss 37 published empirical researches including articles, book chapters, and dissertations to systematically collate past literature in this field of research. We examine the psychometric properties of the instruments adopted in the included studies from India, as well as methodological characteristics including design and data collection, sample size and sampling procedures of the included studies, and characteristics of bullying behavior distinctive to the Indian context. Results show that bullying is widely spread, with available prevalence estimates varying largely across India. Additionally, some risk-factors like gender, and consequences of bullying behaviors like low self-esteem, associated with bullying and victimization are comparable to western literature and have also been commonly reported in global literature. However, certain other factors, like caste and religion, and their association with bullying behaviors are typical to the Indian culture and context. Chapter 2 concludes that many studies on bullying from India should be interpreted cautiously because of methodological shortcomings with sampling, instrumentation, research designs, and presentation of the findings. Future research would benefit from attempts to avoid such methodological shortcomings.

The 3rd chapter of this dissertation examines individual characteristics that make, and differentiate between, bullies, victims, and bully-victims, focusing particularly on dimensions of psychopathy, namely callous-unemotional (CU) traits, narcissism, and impulsivity, and their unique contribution in predicting individual bullying behaviors. Earlier studies found that dimensions of Psychopathy have a significant contribution in predicting bullying behaviors among adolescents. However, these studies primarily used self-reports to measure bullying behaviors, and also frequently reported cross-sectional associations, thereby constraining the examination of directionality of relations between bullying and possible antecedents and consequences. Chapter 3 thus examines the associations between Psychopathy and bullying in a longitudinal capacity, using self- as well as peer-reports. Findings from this chapter show that all sub-dimensions of psychopathy, i.e., CU traits, narcissism, and impulsivity, contribute somewhat to the prediction of bullying in order to form a significant combined overall effect. Using multinomial logistic regression analyses, we conclude that psychopathy dimensions taken together provide a better fit in predicting bullying behavior beyond socio-demographics, than the independent psychopathic subscale scores of narcissism, CU traits, and impulsivity. These separate aspects are not significant predictors of bullying and victimization in India. Additionally, chapter 3 illustrates the cultural interference of factors like caste and religion in the study of bullying in India, where we found that for caste, the "non-general" caste category significantly predicted victims, whereas for religion, the "non-Hindu" category predicts victim groups. This chapter further highlights the need and advantage of using a multi-informant approach in the study of bullying and victimization.

In chapter 4 of this dissertation, we take a look at complex associations between bullying victimization behaviors and the Body Mass Index (BMI) of an individual, investigating the structure and context of the relationship between the two constructs in a longitudinal framework. A transactional model was tested by conducting structural

equation modeling analyses with bullying victimization and BMI as the two constructs analyzed in a reciprocal capacity. Key results from this chapter indicate that for self-reported victimization, there was no concurrent or over time association between BMI and victimization for boys or girls. For peer-reported victimization, we observed concurrent associations between BMI and victimization for boys and girls, and a prospective relation where higher BMI corresponded to less victimization over time for boys. However, the one longitudinal association could be nuanced as a chance observation, concluding that this chapter yielded mainly, and almost exclusively, concurrent relations between BMI and victimization among adolescents in India. This chapter emphasizes that given the rigorous longitudinal design, with both self- and peer reports of bully victimization as well as objective measures of BMI, results from western countries may not generalize to India. This calls for new research focusing on cross-validation studies to examine context-specific variables and cultural factors, appearance ideals, and eating habits in India as compared to western countries, in addition to victimization experiences at school.

Chapter 5 of this thesis is about bullying behaviors among youth as a function of their classroom context and composition, specifically eliciting the role of socio-economic status, minority status of an individual with regards to the classroom SES context, and self-perceptions of students sharing this context. Using a moderated-mediation model of analysis, this chapter examines the associations between SES and victimization longitudinally, highlighting change in these associations over time. Furthermore, we examine if the relationship between contextual SES and victimization is mediated by perception of majority or minority SES status of the individual. Results from this chapter show that at baseline classroom level SES plays a significant role in predicting victimization behavior in schools cross-sectionally, but it also does longitudinally, over time. Additionally, this role of the classroom level moderator is mediated through perceptions of self, where individuals who perceive themselves as a

minority experience more victimization than students who belong to a minority but do not perceive themselves as such. However, it was found that in the long run, being part of a minority, and perceiving self as such, leads to decreased victimization. This finding points to the working of normative beliefs, values, and context of the Indian society, warranting future research.

In sum, this dissertation clarifies that bullying behaviors vary in the Indian context, contingent upon several individual and contextual factors. We present several significant contributions to advance our understanding in the field of bullying and victimization, such as the associations between psychopathic traits, cultural variables like caste and religion as well as socio-economic status, and self-perceptions of individuals, with bullying behaviors in India. We advise future researchers to employ designs that allow for the examination of directionality of associations between bullying and its correlates, and build on this thesis through extended replications in India. We further emphasize the need and benefit of using multi-informant approaches in this field of study. We caution future researchers that findings from western studies may not be generalizable to the Indian context, and thus, designing effective interventions for bullying behaviors in schools will require further examination of context-specific variables and cultural factors among school-going adolescents in India.

SAMENVATTING

Dit proefschrift gaat over pestgedrag onder jongeren op scholen in India. Eerdere studies naar pesten in India en de voorspellers en consequenties daarvan leverden zeer uiteenlopende en deels tegenstrijdige bevindingen op. Hoofdstuk 2 van dit proefschrift is een systematische review over de empirische literatuur over pestgedrag in India, en de drie daaropvolgende hoofdstukken zijn empirische hoofdstukken over de relaties van pestgedrag, slachtofferschap, predictoren daarvan en gevolgen.

Het tweede hoofdstuk van dit proefschrift is een systematische review over pestgedrag in India. Er worden 37 wetenschappelijke artikelen, boekhoofdstukken, en proefschriften op systematische wijze samengevat en besproken. Hierbij is aandacht voor de methodologische kenmerken van de studies, de psychometrische kwaliteiten van de instrumenten, steekproefgrootte en steekproeftrekking. De resultaten van alle studies worden samengevat, waarbij er speciaal aandacht is voor factoren die uniek zijn in de Indiase context. Pesten lijkt veel voor te komen in India, maar de schattingen over prevalentie variëren in grote mate tussen de studies. Risicofactoren zoals geslacht, en de mogelijke consequenties van pestgedrag zoals een laag zelfbeeld komen overeen met studies die in het Westen zijn uitgevoerd. Ook is er in de studies aandacht voor de samenhang van pesten met factoren die meer uniek zijn voor India, zoals kaste en religie. Een van de voornaamste conclusies uit dit hoofdstuk is dat studies uit India over pesten uit India voorzichtig geïnterpreteerd moeten worden vanwege methodologische beperkingen met de steekproeftrekking, meetinstrumenten, en studie-opzet. Vervolgonderzoek waarbij meer aandacht is voor de methodologie is nodig om een beter beeld te krijgen over pestgedrag in India.

Het derde hoofdstuk gaat over psychopathie, en in hoeverre deze variabele onderscheid kan maken tussen pesters, slachtoffers, pester-slachtoffers en kinderen die niet betrokken zijn bij pesten. Psychopathie wordt in deze studie opgedeeld in

drie facetten, namelijk narcisme, gevoelloze trekken, en impulsiviteit, en van iedere trek wordt de unieke voorspellende waarde in relatie tot pestrollen geanalyseerd. Belangrijke meerwaardes van deze studie zijn de 'peer-rapportages' voor pestrollen en het longitudinale design. De facetten afzonderlijk leveren slechts kleine unieke bijdrages aan het voorspellen van pestgedrag, maar het gehele construct psychopathie heeft een statistisch significant effect in de voorspelling van pestrollen. Kaste en SES waren andere significante voorspellers van pestgedrag. In de discussie wordt het belang van peer-rapportages onderstreept.

In hoofdstuk 4 van deze dissertatie wordt de samenhang tussen pestgedrag en body mass index (BMI) geanalyseerd. Er wordt gebruik gemaakt van een longitudinaal model waarbij zelfrapportages en peer-rapportages onafhankelijk van elkaar worden geanalyseerd. Het statistische model dat wordt gebruikt is een zogenaamd "cross-lagged" model, waarbij lichaamsgewicht wordt geanalyseerd als voorspeller van pestgedrag en vice-versa. Wanneer de zelfrapportages worden geanalyseerd worden voor jongens noch meisjes significante samenhangen gevonden tussen pesten en BMI. Bij de peer rapportages lieten de analyses meerdere significante samenhangen binnen meetmomenten zien, maar slechts één longitudinale samenhang. Deze longitudinale samenhang suggereerde dat jongens met een hoger BMI een lagere kans hadden op toekomstig slachtofferschap. Omdat dit de enige longitudinale statistisch significante relatie in de analyses was moet deze uitkomst echter voorzichtig worden geïnterpreteerd. Mogelijk gaat het hier om een fout van de eerste soort. Het algehele patroon van de resultaten, verkregen uit een onderzoek met een groot sample, een longitudinaal design, en met gebruik van zowel zelfrapportages als peer-rapportages, suggereert dat bevindingen uit de Westerse wereld over BMI en pestgedrag zich niet naar India laten generaliseren. Meer onderzoeken zijn nodig, met daarbij meer aandacht voor specifieke, wellicht unieke culturele factoren in India.

Het vijfde hoofdstuk uit dit proefschrift gaat over de samenhang tussen pesten en

socio-economische status (SES), waarbij specifiek aandacht is voor minderheidsstatus als moderator, en zelfperceptie als mediator. Wederom wordt in dit hoofdstuk gebruik gemaakt van een longitudinaal design met peer-rapportages en zelfrapportages. De uitkomsten van de analyses suggereren dat de gemiddelde SES van een klas zowel cross-sectioneel als longitudinaal een voorspeller is van pestgedrag. Ook worden significante relaties gevonden tussen zelfperceptie van SES en het slachtofferschap van pesten, wat suggereert dat zelfpercepties een grotere rol spelen in slachtofferschap dan de daadwerkelijke SES. Echter, longitudinale verbanden suggereren ook dat een minderheidspositie, en de zelfperceptie van een minderheidspositie, samenhangen met een lagere mate van ervaren slachtofferschap. Ook hier is onderzoek met een grondige analyse van Indiase culturele factoren nodig.

Samenvattend is een belangrijke conclusie uit dit proefschrift dat pestgedrag in India voorkomt, en voorspeld kan worden door een scala aan factoren op individueel en contextueel niveau. Hoewel er samenhangen werden gevonden tussen pestgedrag enerzijds, en psychopathie, BMI en SES anderzijds, blijken bevindingen uit eerdere Westerse studies maar beperkt generaliseerbaar naar India. Het gebruik van een longitudinaal design, peer-rapportages en zelfrapportages, en een grote steekproef waren methodologische kenmerken van dit proefschrift die hopelijk navolging vinden in toekomstig onderzoek naar pestgedrag in India. Zulk toekomstig onderzoek zou recht moeten doen aan de situatie in India door rekening te houden met de unieke context en bijbehorende culturele factoren in India.

REFERENCES

Adams, R. E., & Bukowski, W. M. (2008). Peer victimization as a predictor of depression and body mass index in obese and non-obese adolescents. *Journal of Child Psychology and Psychiatry, 49*, 858-866. https://doi.org/10.1111/j.1469-7610.2008.01886.x

Arksey, H., & O'Malley, L. (2005). Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology, 8*, 19-32. https://doi.org/10.1080/1364557032000119616

Aromataris, E., & Pearson, A. (2014). The systematic review: an overview. *The American Journal of Nursing*, *114*, 53-58. https://doi.org/10.1097/01.NAJ.0000444496.24228.2c

Baly, M. W., Cornell, D. G., & Lovegrove, P. (2014). A longitudinal investigation of self- and peer reports of bullying victimization across middle school. *Psychology in the Schools, 51*, 217-240. https://doi.org/10.1002/pits.21747

Banerji, M. A., Faridi, N., Atluri, R., Chaiken, R. L., & Lebovitz, H. E. (1999). Body composition, visceral fat, leptin, and insulin resistance in Asian Indian men. *The Journal of Clinical Endocrinology and Metabolism, 84*, 137-144. https://doi.org/10.1210/jcem.84.1.5371

Bapat, R. S. (2016). *The class divide in urban Indian youths' lives; their time use and adaptive functioning* (PhD thesis, Leiden University, the Netherlands). Retrieved from https://openaccess.leidenuniv.nl/handle/1887/44816

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182. https://doi.org/10.1037/0022-3514.51.6.1173

Bayaga, A. (2010). Multinomial logistic regression: usage and application in risk analysis. *Journal of Applied Quantitative Methods, 5*, 288-297. Retrieved from http://jaqm.ro/issues/volume-5,issue-2/pdfs/bayaga.pdf

Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine, 25*, 3186-3191. doi: 10.1097/00007632-200012150-00014

Bellmore, A. D., Witkow, M. R., Graham, S., & Juvonen, J. (2004). Beyond the individual: the impact of ethnic context and classroom behavioral norms on victims' adjustment. *Developmental Psychology, 40*, 1159-1172. doi: 10.1037/0012-1649.40.6.1159

Borsboom, D., & Cramer, A. O. J. (2013). Network analysis: An integrative approach to the structure of psychopathology. *Annual Review of Clinical Psychology, 9*, 91-121. https://doi.org/10.1146/annurev-clinpsy-050212-185608

Bowker, J. C., Markovic, A., Cogswell, A., & Raja, R. (2012). Moderating Effects of Aggression on the Associations between Social Withdrawal Subtypes and Peer Difficulties during Early Adolescence. *Journal of Youth and Adolescence, 41*, 995-1007.

Boyce, W., Torsheim, T., Currie, C., & Zambon, A. (2006). The family affluence scale as a measure of national wealth: validation of an adolescent self-report measure. *Social Indicators Research, 78*, 473-487. https://doi.org/10.1007/s11205-005-1607-6

Branson, C. E., & Cornell, D. G. (2009). A comparison of self and peer reports in the assessment of middle school bullying. *Journal of Applied School Psychology, 25*, 5-27. http://dx.doi.org/10.1080/15377900802484133

Brewis, A., SturtzSreetharan, C. & Wutich, A. (2018). Obesity stigma as a globalizing health challenge. *Global Health, 14*, 20-26. https://doi.org/10.1186/s12992-018-0337-x

Brixval, C. S., Rayce, S. L., Rasmussen, M., Holstein, B. E., & Due, P. (2012). Overweight, body image and bullying; an epidemiological study of 11-to 15-years olds. *The European Journal of Public Health, 22,* 126-130. https://doi.org/10.1093/eurpub/ckr010

Bronfenbrenner, U. (Ed.). (2005). *Making human beings human: Bioecological perspectives on human development.* Thousand Oaks, California: Sage Publications.

Campbell, M. A., Porter, S., & Santor, D. (2004). Psychopathic traits in adolescent offenders. *Behavioral Sciences & the Law, 22*, 23-47. https://doi.org/10.1002/bsl.572

Campbell, M., Kettle, M., & Sundaram, S. (2018). Societal and cultural considerations in understanding peer bullying in India. In P. K. Smith, S. Sundaram, B. A. Spears, C. Blaya, M. Schäfer, & D. Sandhu (Eds.), *Bullying, cyberbullying and student well-being in schools: Comparing European, Australian and Indian Perspectives,* (pp. 26-44). New York, NY: Cambridge University Press.

Census of India (2011). *Population Enumeration Data*. New Delhi, India. Available from http://censusindia.gov.in/

Chakrabartty, S. N., & Gupta, R. (2016). Test Validity and Number of Response Categories: A Case of Bullying Scale. *Journal of the Indian Academy of Applied Psychology, 42*, 344-353.

Charak, R., & Koot, H. M. (2015). Severity of maltreatment and personality pathology in adolescents of Jammu, India: A latent class approach. *Child Abuse & Neglect, 50*, 56-66. https://doi.org/10.1016/j.chiabu.2015.05.010

Chau, N., Chau, K., Mayet, A., Baumann, M., Legleye, S., & Falissard, B. (2013). Self-reporting and measurement of body mass index in adolescents: refusals and validity, and the possible role of socioeconomic and health-related factors. *BMC Public Health, 13*, 1-16. https://doi.org/10.1186/1471-2458-13-815

Chen, X., & French, D. C. (2008). Children's social competence in cultural context. *Annual Review of Psychology, 59*, 591-616. https://doi.org/10.1146/annurev.psych.59.103006.093606

Ciucci, E., Baroncelli, A., Franchi, M., Golmaryami, F. N., & Frick, P. J. (2014). The association between callous-unemotional traits and behavioral and academic adjustment in children. *Journal of Psychopathology and Behavioral Assessment, 36*, 189-200. https://doi.org/10.1007/s10862-013-9384-z

Cole, J., Bellizzi, C., Flegal, M., & Dietz, H. (2000). Establishing a standard definition for child overweight and obesity worldwide: international survey. *British Medical Journal, 320*, 1240-1243. https://doi.org/10.1136/bmj.320.7244.1240

Colins, O. F., Noom, M., & Vanderplasschen, W. (2012). Youth Psychopathic Traits Inventory Short Version: A further test of the internal consistency and criterion validity. *Journal of Psychopathology and Behavioral Assessment, 34*, 476-486. https://doi.org/10.1007/s10862-012-9299-0

Cook, C. R., Williams, K. R., Guerra, N. G., Kim, T. E., & Sadek, S. (2010). Predictors of bullying and victimization in childhood and adolescence: A meta-analytic investigation. *School Psychology Quarterly, 25*, 65-83. https://doi.org/10.1037/a0020149

Cooper, H., Hedges, L. V., & Valentine, J. C. (Eds.). (2009). *The handbook of research synthesis and meta-analysis.* New York: Russell Sage Foundation.

Copeland, W. E., Bulik, C. M., Zucker, N., Wolke, D., Lereya, S. T., & Costello, E. J. (2015). Does childhood bullying predict eating disorder symptoms? A prospective, longitudinal analysis. *International Journal of Eating Disorders, 48*(8), 1141-1149. https://doi.org/10.1002/eat.22459

Cornell, D., & Bandyopadhyay, S. (2009). The assessment of bullying. In S. Jimerson, S. Swearer, & D. Espelage (Eds.), *The International Handbook of School Bullying* (pp. 265-276). New York: Routledge.

Cornell, D., & Brockenbrough, K. (2004). Identification of Bullies and Victims. *Journal of School Violence, 3*, 63-87. doi:10.1300/J202v03n02_05

Correia, I., Kamble, S. V., & Dalbert, C. (2009). Belief in a just world and well-being of bullies, victims and defenders: a study with Portuguese and Indian students. *Anxiety, Stress, and Coping, 22*, 497-508. https://dx.doi.org/10.1080/10615800902729242

Coyne, I. (2010). Research with children and young people: The issue of parental (proxy) consent. *Children & Society, 24*(3), 227-237. https://doi.org/10.1111/j.1099-0860.2009.00216.x

Curran, P. J., Obeidat, K., & Losardo, D. (2010). Twelve frequently asked questions about growth curve modeling. *Journal of Cognition and Development, 11*, 121-136. https://doi.org/10.1080/15248371003699969.

Currie, C. E., Elton, R. A., Todd, J., & Platt, S. (1997). Indicators of socioeconomic status for adolescents: The WHO health behavior in school-Aged children survey. *Health Education Research, 12*, 385-397. http://dx.doi.org/10.1093/her/12.3.385

De Los Reyes, A., Augenstein, T. M., Wang, M., Thomas, S. A., Drabick, D., Burgers, D. E., & Rabinowitz, J. (2015). The validity of the multi-informant approach to assessing child and adolescent mental health. *Psychological Bulletin, 141*, 858-900. https://doi.org/10.1037/a0038498

Deshpande, A. (2001). Caste at birth? Redefining disparity in India. *Review of Development Economics*, *5*, 130-144. https://doi.org/10.1111/1467-9361.00112

Diehl, M., Jacobs, L. M., & Hastings, C. T. (2006). Temporal stability and authenticity of self-representations in adulthood. *Journal of Adult Development, 13*, 10-22. doi: 10.1007/s10804-006-9001-4

Donat, M., Umlauft, S., Dalbert, C., & Kamble, S. V. (2012). Belief in a just world, teacher justice, and bullying behavior. *Aggressive Behavior, 38*, 185-193. https://dx.doi.org/10.1002/ab.21421

Due, P., Merlo, J., Harel-Fisch, Y., Damsgaard, M. T., soc, M. S., Holstein, B. E., ... &

de Matos, M. G. (2009). Socioeconomic inequality in exposure to bullying during adolescence: a comparative, cross-sectional, multilevel study in 35 countries. *American Journal of Public Health*, 99, 907-914. doi:10.2105/AJPH.2008.139303

Durkin, K., Hunter, S., Levin, K. A., Bergin, D., Heim, D., & Howe, C. (2012). Discriminatory peer aggression among children as a function of minority status and group proportion in school context. *European Journal of Social Psychology, 42*, 243-251. https://doi.org/10.1002/ejsp.870

Eccles, J. S., & Roeser, R. W. (2011). Schools as developmental contexts during adolescence. *Journal of Research on Adolescence, 21*, 225-241. doi: 10.1111/j.1532-7795.2010.00725.x

Egger, M., Smith, G.D. and O'Rourke, K. (2001). Introduction: Rationale, Potentials, and Promise of Systematic Reviews. In M. Egger, G.D. Smith, & D.G. Altman (Eds.), *Systematic Reviews in Health Care* (pp. 1- 19). John Wiley & Sons. https://doi.org/10.1002/9780470693926.ch1

Elgar, F. J., McKinnon, B., Walsh, S. D., Freeman, J., Donnelly, P. D., de Matos, M. G., … & Currie, C. (2015). Structural determinants of youth bullying and fighting in 79 countries. *Journal of Adolescent Health, 57*, 643-650. https://doi.org/10.1016/j.jadohealth.2015.08.007

Enders, C. K., Keller, B. T., & Levy, R. (2018). A fully conditional specification approach to multilevel imputation of categorical and continuous variables. *Psychological Methods, 23*, 298-317. https://doi.org/10.1037/met0000148

Erum, N. (2018). *Mothering a Muslim*. New Delhi, India: Juggernaut Books.

Espelage, D. L., & Holt, M. K. (2001). Bullying and victimization during early adolescence: Peer influences and psychosocial correlates. *Journal of Emotional Abuse, 2*, 123-142. https://dx.doi.org/10.1300/J135v02n02_08

Espelage, D. L., Holt, M. K., & Henkel, R. R. (2003). Examination of peer–group contextual

effects on aggression during early adolescence. *Child Development, 74*, 205-220. https://dx.doi.org/10.1111/1467-8624.00531

Falkner, N. H., Neumark-Sztainer, D., Story, M., Jeffery, R. W., Beuhring, T., & Resnick, M. D. (2001). Social, educational, and psychological correlates of weight status in adolescents. *Obesity Research, 9*, 32-42. https://doi.org/10.1038/oby.2001.5

Fanti, K. A., & Henrich, C. C. (2015). Effects of self-esteem and narcissism on bullying and victimization during early adolescence. *The Journal of Early Adolescence, 35*, 5-29. https://dx.doi.org/10.1177/0272431613519498

Fanti, K. A., & Kimonis, E. R. (2013). Dimensions of juvenile psychopathy distinguish "bullies", "bully-victims", and "victims". *Psychology of Violence, 3*, 396-409. http://dx.doi.org/10.1037/a0033951

Fox, C. L., & Farrow, C. V. (2009). Global and physical self-esteem and body dissatisfaction as mediators of the relationship between weight status and being a victim of bullying. *Journal of Adolescence, 32*, 1287-1301. https://doi.org/10.1016/j.adolescence.2008.12.

Froystad, K. (2013). Cosmopolitanism or iatrogenesis? Reflections on religious pluraility, censorship and disciplinary orientations. In Skoda, U., Neilsen, K., & Fibiger, M. (Eds.), *Navigating social exclusion and inclusion in contemporary India and beyond* (pp. 19-40). London, UK: Anthem Press.

Ganguly, S. (2003). The Crisis of Indian Secularism. *Journal of Democracy, 14*, 11-25. doi:10.1353/jod.2003.0076.

Gao, Y., Baker, L.A., Raine, A., Wu, H., & Bezdjian, S. (2009). Brief report: Interaction between social class and risky decision-making in children with psychopathic tendencies. *Journal of Adolescence*, *32*, 409-414. https://doi.org/10.1016/j.adolescence.2008.09.001

Giletta, M., Scholte, R. H., Engels, R. C., & Larsen, J. K. (2010). Body mass index and victimization during adolescence: The mediation role of depressive symptoms

and self-esteem. *Journal of Psychosomatic Research, 69*, 541-547. https://doi.org/10.1016/j.jpsychores.2010.06.00

Goossens, F., Pronk, J., Lee, N., Olthof, T., Schäfer, M., Stoiber, M. . . . Kaur, S. (2018). Bullying, defending and victimization in Western Europe and India: Similarities and differences. In P. K. Smith, S. Sundaram, B. A. Spears, C. Blaya, M. Schäfer, & D. Sandhu (Eds.), *Bullying, cyberbullying and student well-being in schools: Comparing European, Australian and Indian Perspectives.* (pp. 146-165). New York, NY: Cambridge University Press.

Gothwal, V. K., Sumalini, R., Irfan, S. M., Giridhar, A., & Bharani, S. (2013). Revised Olweus Bully/Victim Questionnaire: evaluation in visually impaired. *Optometry and Vision Science: Official Publication of the American Academy of Optometry, 90*, 828-835. https://dx.doi.org/10.1097/OPX.0b013e3182959b52

Graham, S. (2016). Victims of bullying in schools. *Theory Into Practice, 55*, 136-144. https://doi.org/10.1080/00405841.2016.1148988

Graham, S., & Juvonen, J. (1998). Self-blame and peer victimization in middle school: an attributional analysis. *Developmental Psychology, 34*, 587-599. doi:10.1037/0012-1649.34.3.587

Graham, S., & Juvonen, J. (2002). Ethnicity, peer harassment, and adjustment in middle school: An exploratory study. *Journal of Early Adolescence, 22*, 173–199. https://doi.org/10.1177/0272431602022002003

Graham, S., Bellmore, A., & Juvonen, J. (2003). Peer victimization in middle school: When self- and peer views diverge. *Journal of Applied School Psychology, 19*, 117-137. https://doi.org/10.1300/J008v19n02_08

Griffiths, L. J., Wolke, D., Page, A. S., & Horwood, J. (2006). Obesity and bullying: different effects for boys and girls. *Archives of Disease in Childhood, 91*, 121-125. doi:10.1136/adc.2005.072314

Gromann, P. M., Goossens, F., & Krabbendam, L. (2011). Letter to the editor: comments

on ‘bullying victimization in youths and mental health problems: much ado about nothing?’. *Psychological Medicine*, *41*, 2236-2237. doi:10.1017/s0033291711001036

Gupta, D. (2000). *Interrogating caste: Understanding hierarchy and difference in Indian society.* New Delhi: Penguin Books India.

Hase, C. N., Goldberg, S. B., Smith, D., Stuck, A., & Campain, J. (2015). Impacts of traditional bullying and cyberbullying on the mental health of middle school and high school students. *Psychology in the Schools, 52*, 607-617. https://doi.org/10.1002/pits.21841

Hawker, D. S., & Boulton, M. J. (2000). Twenty years’ research on peer victimization and psychosocial maladjustment: A meta-analytic review of cross-sectional studies. *Journal of Child Psychology and Psychiatry, 41*, 441-455. https://dx.doi.org/10.1111/1469-7610.00629

Hirway, I. (2010). Time-Use surveys in developing countries: an assessment. In Antonopoulos R., & Hirway, I. (Eds.), *Unpaid Work and the Economy* (pp. 252-324). London, UK: Palgrave Macmillan. https://doi.org/10.1057/9780230250550_11

Hutnik, N. (2004). An intergroup perspective on ethnic minority identity. In Pandey, J. (Ed.), *Psychology in India Revisited - Developments in the Discipline: Applied Social and Organizational Psychology,* (Vol. 3, pp. 216 - 260). New Delhi: Sage.

Hymel, S., McClure, R., Miller, M., Shumka, E., & Trach, J. (2015). Addressing school bullying: Insights from theories of group processes. *Journal of Applied Developmental Psychology, 37*, 16-24. https://doi.org/10.1016/j.appdev.2014.11.008

Ioannidis, J. P. (2005). Why most published research findings are false. *PLoS Medicine, 2*, e124. https://doi.org/10.1371/journal.pmed.0020124

Jaacks, L. M., Slining, M. M., & Popkin, B. M. (2015). Recent trends in the prevalence of under- and overweight among adolescent girls in low-and middle-income countries. *Pediatric Obesity, 10*, 428-435. doi: 10.1111/ijpo.12000

Jaishankar, K. & Halder, D. (2009). Cyber bullying among school students in India. In Jaishankar, K. (Ed.), *International perspectives on crime and justice* (pp 579-599). UK: Cambridge Scholar Publishing.

Jaishankar, K. (2009). *International perspectives on crime and justice.* UK: Cambridge Scholars Publishing.

Jansen, P. W., Mieloo, C. L., Dommisse-van Berkel, A., Verlinden, M., van der Ende, J., Stevens, G., Verhulst, F. C., Jansen, W., & Tiemeier, H. (2016). Bullying and victimization among young elementary school children: The role of child ethnicity and ethnic school composition. *Race and Social Problems, 8,* 271-280. https://doi.org/10.1007/s12552-016-9182-9

Janssen, I., Craig, W. M., Boyce, W. F., & Pickett, W. (2004). Associations between overweight and obesity with bullying behaviors in school-aged children. *Pediatrics, 113*, 1187-1194. https://doi.org/10.1542/peds.113.5.1187

Jolliffe, D., & Farrington, D. P. (2011). Is low empathy related to bullying after controlling for individual and social background variables? *Journal of Adolescence, 34*, 59-71. https://doi.org/10.1016/j.adolescence.2010.02.001

Juvonen, J., Nishina, A., Graham, S. (2001). Self-views versus peer perception of victim status among early adolescents. In J. Juvonen, & S. Graham (Eds.), *Peer Harassment in School: The Plight of the Vulnerable and Victimize*d (pp. 105-124). The Guilford Press : New York, London.

Kakar, S., & Kakar, K. (2009). *The Indians: Portrait of a people.* Penguin Books, India.

Kalra, G., De Sousa, A., Sonavane, S., & Shah, N. (2012). Psychological issues in pediatric obesity. *Industrial Psychiatry Journal, 21*, 11. doi:10.4103/0972-6748.110941

Kaurin, A., Egloff, B., Stringaris, A., & Wessa, M. (2016). Only complementary voices tell the truth: A reevaluation of validity in multi-informant approaches of child and adolescent clinical assessments. *Journal of Neural Transmission, 123*, 981-990. https://doi.org/10.1007/s00702-016-1543-4

Kelly, O., Krishna, A., & Bhabha, J. (2016). Private schooling and gender justice: An empirical snapshot from Rajasthan, India's largest state. *International Journal of Educational Development, 46*, 175-187. doi:10.1016/j.ijedudev.2015.10.004

Khatri, P. (1996). *Aggression, peer victimization, and social relationships among rural Indian youth* (Doctoral dissertation). University of North Carolina at Chapel Hill.

Khatri, P., & Kupersmidt, J. B. (2003). Aggression, peer victimization, and social relationships among Indian youth. *International Journal of Behavioral Development, 27*, 87-95. doi:10.1080/01650250244000056

Kingdon, G. G. (2007). The progress of school education in India. *Oxford Review of Economic Policy, 23*, 168-195. https://doi.org/10.1093/oxrep/grm015

Kshirsagar, V., Agarwal, R., & Bavdekar, S. (2007). Bullying in schools: prevalence and short-term impact. *Indian Pediatrics, 44*, 25-28. https://indianpediatrics.net/jan2007/jan-25-28.htm

Ladd, G. W., & Kochenderfer-Ladd, B. (2002). Identifying victims of peer aggression from early to middle childhood: Analysis of cross-informant data for concordance, estimation of relational adjustment, prevalence of victimization, and characteristics of identified victims. *Psychological Assessment, 14*, 74-96. https://doi.org/10.1037/1040-3590.14.1.74

Lee, K. S., & Vaillancourt, T. (2018). Developmental pathways between peer victimization, psychological functioning, disordered eating behavior, and body mass index: A review and theoretical model. *Aggression and Violent Behavior, 39*, 15-24. https://doi.org/10.1016/j.avb.2018.01.004

Lee, K. S., & Vaillancourt, T. (2019). Body mass index, peer victimization, and body dissatisfaction across 7 years of childhood and adolescence: evidence of moderated and mediated pathways. *Developmental Science, 22*, e12734. doi: 10.1111/desc.12734

Lee, K. S., Guy, A., Dale, J., & Wolke, D. (2017). Does psychological functioning mediate

the relationship between bullying involvement and weight loss preoccupation in adolescents? A two-stage cross-sectional study. *International Journal of Behavioral Nutrition and Physical Activity, 14*, 38. https://doi.org/10.1186/s12966-017-0491-1

Lee, K., Dale, J., Guy, A., & Wolke, D. (2018). Bullying and negative appearance feedback among adolescents: Is it objective or misperceived weight that matters?. *Journal of Adolescence, 63,* 118-128. https://doi.org/10.1016/j.adolescence.2017.12.008

Lee, N., Pronk, J., Olthof, T., Sandhu, D., Kaur, S., & Goossens, F. (2018). Defining the relationship between risk-taking and bullying during adolescence: A cross-cultural comparison. In P. K. Smith, S. Sundaram, B. A. Spears, C. Blaya, M. Schäfer, & D. Sandhu (Eds.), *Bullying, cyberbullying and student well-being in schools: Comparing European, Australian and Indian perspectives.* (pp. 166-185). New York, NY: Cambridge University Press.

Leff, S. S., Power, T. J., & Goldstein, A. B. (2004). Outcome measures to assess the effectiveness of bullying-prevention programs in the schools. In D. L. Espelage & S. M. Swearer (Eds.), *Bullying in American schools: A social-ecological perspective on prevention and intervention* (pp. 269-293). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Lemmer, G., & Gollwitzer, M. (2017). The "true" indirect effect won't (always) stand up: When and why reverse mediation testing fails. *Journal of Experimental Social Psychology, 69*, 144-149. https://doi.org/10.1016/j.jesp.2016.05.002

Li, Y. J., Xie, X. N., Lei, X., Li, Y. M., & Lei, X. (2020). Global prevalence of obesity, overweight and underweight in children, adolescents and adults with autism spectrum disorder, attention-deficit hyperactivity disorder: A systematic review and meta-analysis. *Obesity Reviews*, *21*, 1-13. https://doi.org/10.1111/obr.13123

Liang, H., Flisher, A. J., & Lombard, C. J. (2007). Bullying, violence, and risk behavior in South African school students. *Child Abuse & Neglect, 31*, 161-171.

https://doi.org/10.1016/j.chiabu.2006.08.007

Lilienfeld, S. O. (2018). The multidimensional nature of psychopathy: Five recommendations for research. *Journal of Psychopathology and Behavioral Assessment, 40*, 79-85. http://dx.doi.org/10.1007/s10862-018-9657-7

Lin, Y. C., Latner, J. D., Fung, X. C., & Lin, C. Y. (2018). Poor health and experiences of being bullied in adolescents: Self-perceived overweight and frustration with appearance matter. *Obesity*, *26*, 397-404. doi: 10.1002/oby.22041

Little, R. J. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association, 83*, 1198-1202. doi: 10.2307/2290157

Lumeng, J. C., Forrest, P., Appugliese, D. P., Kaciroti, N., Corwyn, R. F., & Bradley, R. H. (2010). Weight status as a predictor of being bullied in third through sixth grades. *Pediatrics, 125*, e1301-e1307. https://doi.org/10.1542/peds.2009-0774

Lumeng, J. C., Forrest, P., Appugliese, D. P., Kaciroti, N., Corwyn, R. F., & Bradley, R. H. (2010). Weight status as a predictor of being bullied in third through sixth grades. *Pediatrics, 125*, e1301-e1307. doi:10.1542/peds.2009-0774

Lunde, C., Frisen, A., & Hwang, C. P. (2007). Ten-year-old girls' and boys' body composition and peer victimization experiences: Prospective associations with body satisfaction. *Body Image, 4*, 11-28. https://doi.org/10.1016/j.bodyim.2006.10.002

Lynam, D. R., Charnigo, R., Moffitt, T. E., Raine, A., Loeber, R., & Stouthamer-Loeber, M. (2009). The stability of psychopathy across adolescence. *Development and Psychopathology, 21*, 1133-115. https://dx.doi.org/10.1017/S0954579409990083

Maji, S., Bhattacharya, S., & Ghosh, D. (2016). Cognitive coping and psychological problems among bullied and non-bullied adolescents. *Journal of Psychosocial Research, 11*, 387-396.

Malamut, S. T., van den Berg, Y. H., Lansu, T. A., & Cillessen, A. H. (2020). Dyadic

nominations of bullying: Comparing types of bullies and their victims. *Aggressive Behavior*, 46, 232-243. doi: 10.1002/ab.21884

Malhi, P., Bharti, B., & Sidhu, M. (2014). Aggression in schools: psychosocial outcomes of bullying among Indian adolescents. *Indian Journal of Pediatrics, 81*, 1171-1176. https://dx.doi.org/10.1007/s12098-014-1378-7

Malhi, P., Bharti, B., & Sidhu, M. (2015). Peer victimization among adolescents: Relational and physical aggression in Indian schools. *Psychological Studies, 60*, 77-83. doi:10.1007/s12646-014-0283-5

Malik, A., & Mehta, M. (2016). Bullying among adolescents in an Indian school. *Psychological Studies, 61*, 220-232. doi:10.1007/s12646-016-0368-4

Mamun, A., O'Callaghan, M. J., Williams, G., & Najman, J. (2013). Adolescents bullying and young adults body mass index and obesity: a longitudinal study. *International Journal of Obesity, 37*, 1140-1146. http://dx.doi.org/10.1038/ijo.2012.182

Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological methods*, *12*, 23-44. https://doi.org/10.1037/1082-989X.12.1.23

McDonald, J. D. (2008). Measuring personality constructs: The advantages and disadvantages of self-reports, informant reports and behavioral assessments. *Enquire, 1*, 1-19. Retrieved from https://www.nottingham.ac.uk/sociology/documents/enquire/volume-1-issue-1-dodorico-mcdonald.pdf

McGrath, E. P., & Repetti, R. L. (2002). A longitudinal study of children's depressive symptoms, self-perceptions, and cognitive distortions about the self. *Journal of Abnormal Psychology, 111*, 77-87. https://doi.org/10.1037/0021-843X.111.1.77

Menon, M., & Hannah-Fisher, K. (2019). Felt gender typicality and psychosocial adjustment in Indian early adolescents. *International Journal of Behavioral Development, 43*, 334-341. https://doi.org/10.1177/0165025418820669

Meunier, J. C., Roskam, I., & Browne, D. T. (2011). Relations between parenting and

child behavior: Exploring the child's personality and parental self-efficacy as third variables. *International Journal of Behavioral Development, 35*, 246-259. https://doi.org/10.1177/0165025410382950

Midei, A. J., & Matthews, K. A. (2011). Interpersonal violence in childhood as a risk factor for obesity: a systematic review of the literature and proposed pathways. *Obesity Reviews, 12*, e159-e172. https://doi.org/10.1111/j.1467-789X.2010.00823.x

Milfont, T. L., & Fischer, R. (2010). Testing measurement invariance across groups: Applications in cross-cultural research. *International Journal of Psychological Research, 3*, 111-130. https://doi.org/10.21500/20112084.857

Mishna, F., Khoury-Kassabri, M., Gadalla, T., & Daciuk, J. (2012). Risk factors for involvement in cyber bullying: Victims, bullies and bully–victims. *Children and Youth Services Review, 34*, 63-70. https://doi.org/10.1016/j.childyouth.2011.08.032

Misra, A., Shah, P., Goel, K., Hazra, D. K., Gupta, R., Seth, P., ... & Madan, J. (2011). The high burden of obesity and abdominal obesity in urban Indian schoolchildren: a multicentric study of 38,296 children. *Annals of Nutrition and Metabolism, 58*, 203-211. https://doi.org/10.1159/000329431

Modecki, K. L., Minchin, J., Harbaugh, A. G., Guerra, N. G., & Runions, K. C. (2014). Bullying prevalence across contexts: A meta-analysis measuring cyber and traditional bullying. *Journal of Adolescent Health, 55*, 602-611. https://doi.org/10.1016/j.jadohealth.2014.06.007

Moore, S. E., Norman, R. E., Suetani, S., Thomas, H. J., Sly, P. D., & Scott, J. G. (2017). Consequences of bullying victimization in childhood and adolescence: a systematic review and meta-analysis. *World Journal of Psychiatry, 7*, 60-76. doi: 10.5498/wjp.v7.i1.60

Munni, R., & Malhi, P. (2006). Adolescent violence exposure, gender issues and impact. *Indian Pediatrics, 43*, 607-612.

Naing, L., Winn, T., & Rusli, B. N. (2006). Practical issues in calculating the sample size

for prevalence studies. *Archives of Orofacial Sciences, 1*, 9-14.

Nambiar, P., Jangam, K., Roopesh, B. N., & Bhaskar, A. (2019). Peer victimization and its relationship to self-esteem in children with mild intellectual disability and borderline intellectual functioning in regular and special schools: An exploratory study in urban Bengaluru. *Journal of Intellectual Disabilities,* 1-15. https://doi.org/10.1177/1744629519831573

Nambissan, G. B. (2009). *Exclusion and discrimination in schools: Experiences of dalit children.* New Delhi, India: Indian Institute of Dalit Studies and UNICEF.

Narayanan, A., & Betts, L. R. (2014). Bullying behaviors and victimization experiences among adolescent students: the role of resilience. *The Journal of Genetic Psychology, 175*, 134-146. https://doi.org/10.1080/00221325.2013.834290

Neelakandan, S. M., & Patil, S. M. (2012). Complexities of inclusion and exclusion: Dalit students and higher education in India. *Journal of Social Inclusion, 3*, 86-100. http://doi.org/10.36251/josi.44

Nguyen, A. J., Bradshaw, C. P., Townsend, L., Gross, A., & Bass, J. (2019). It Gets Better: Attenuated Associations Between Latent Classes of Peer Victimization and Longitudinal Psychosocial Outcomes in Four Low-Resource Countries. *Journal of Youth and Adolescence, 48*, 372-385. https://dx.doi.org/10.1007/s10964-018-0935-1

Nguyen, A. J., Bradshaw, C., Townsend, L., & Bass, J. (2017). Prevalence and Correlates of Bullying Victimization in Four Low-Resource Countries. *Journal of Interpersonal Violence*, 1-24. https://doi.org/10.1177/0886260517709799

Nijhawan, L. P., Janodia, M. D., Muddukrishna, B. S., Bhat, K. M., Bairy, K. L., Udupa, N., & Musmade, P. B. (2013). Informed consent: Issues and challenges. *Journal of Advanced Pharmaceutical Technology & Research, 4*, 134-140. doi: 10.4103/2231-4040.116779

O'Brien, N., & Dadswell, A. (2020). Reflections on a participatory research project

exploring bullying and school self-exclusion: power dynamics, practicalities and partnership working. Pastoral Care in Education, 38(3), 208-229. https://doi.org/10.1080/02643944.2020.1788126

Olweus, D. (1993). *Bullying at school: What we know and what can we do.* Malden, MA: Blackwell. https://dx.doi.org/10.1002/pits.10114

Olweus, D. (1996). Bully/victim problems in school. *Prospects, 26*, 331–359. https://doi.org/10.1007/BF02195509

Olweus, D. (1997). Bully/victim problems in school: Facts and intervention. *European Journal of Psychology of Education*, *12*, 495-510. https://doi.org/10.1007/BF03172807

Österman, K., Björkqvist, K., Lagerspetz, K. M., Kaukiainen, A., Huesmann, L. R., & Frączek, A. (1994). Peer and self-estimated aggression and victimization in 8-year-old children from five ethnic groups. *Aggressive Behavior, 20*, 411-428. https://dx.doi.org/10.1002/1098-2337(1994)20:6<411::AID-AB2480200602>3.0.CO;2-4

Panda, A., & Gupta, R. K. (2004). Mapping cultural diversity within India: A meta-analysis of some recent studies. *Global Business Review, 5*, 27-49. https://dx.doi.org/10.1177/097215090400500103

Patel, H. A., Varma, J., Shah, S., Phatak, A., & Nimbalkar, S. M. (2017). Profile of Bullies and Victims Among Urban School-going Adolescents in Gujarat. *Indian Pediatrics*, *54*, 841-843. https://doi.org/10.1007/s13312-017-1146-7

Pearce, M. J., Boergers, J., & Prinstein, M. J. (2002). Adolescent obesity, overt and relational peer victimization, and romantic relationships. *Obesity, 10*, 386-393. https://doi.org/10.1038/oby.2002.53

Peduzzi, P., Concato, J., Kemper, E., Holford, T. R., & Feinstein, A. R. (1996). A simulation study of the number of events per variable in logistic regression analysis. *Journal of Clinical Epidemiology, 49*, 1373-1379. https://doi.org/10.1016/S0895-4356(96)00236-3

Pellegrini, A. D., & Bartini, M. (2000). An empirical comparison of methods of sampling aggression and victimization in school settings. *Journal of Educational Psychology, 92*, 360-366. https://doi.org/10.1037/0022-0663.92.2.360

Pells, K., Portela, M. O., & Revollo, P. E. (2016). *Experiences of peer bullying among adolescents and associated effects on young adult outcomes: Longitudinal evidence from Ethiopia, India, Peru and Vietnam.* Florence: UNICEF Office of Research–Innocenti.

Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences: A practical guide*. Blackwell Publishing. https://doi.org/10.1002/9780470754887

Pickles, J. (2020). Including and involving young people (under 18's) in hate research without the consent of parents. *Qualitative Research, 20*, 22-38. https://doi.org/10.1177/1468794118816622

Ployhart, R. E., & Vandenberg, R. J. (2010). Longitudinal research: The theory, design, and analysis of change. *Journal of Management, 36*, 94-120. https://doi.org/10.1177/0149206309352110

Podsakoff, P. M., MacKenzie, S. B., Lee, J.Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Pöyhönen, V., & Salmivalli, C. (2008). New directions in research and practice addressing bullying: Focus on defending behavior. *Understanding and Addressing Bullying: An International Perspective, 1*, 26-39.

Prakash, K. (2003). *A cross-cultural examination of the childhood correlates of shyness in New Delhi, India* (Doctoral dissertation, Carleton University).

Prakash, R., Beattie, T., Javalkar, P., Bhattacharjee, P., Ramanaik, S., Thalinja, R. . . . Isac, S. (2017). Correlates of school dropout and absenteeism among adolescent girls from marginalized community in north Karnataka, south India. *Journal of*

Adolescence, 61, 64-76. https://dx.doi.org/10.1016/j.adolescence.2017.09.007

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*, 879-891. https://doi.org/10.3758/BRM.40.3.879

Pronk, J., Lee, N. C., Sandhu, D., Kaur, K., Kaur, S., Olthof, T., & Goossens, F. A. (2017). Associations between Dutch and Indian Adolescents' Bullying Role Behavior and Peer-Group Status: Cross-Culturally Testing an Evolutionary Hypothesis. *International Journal of Behavioral Development, 41*, 735-742. https://doi.org/10.1177/0165025416679743

R Core Team (2019). *R: A language and environment for statistical computing.* Vienna, Austria: R Foundation for Statistical Computing. http://www.R-project.org/

R Core Team (2020). *R: A language and environment for statistical computing.* Vienna, Austria: R Foundation for Statistical Computing. Retrieved from https://www.R-project.org/

Ramya, S., & Kulkarni, M. L. (2011). Bullying among school children: prevalence and association with common symptoms in childhood. *The Indian Journal of Pediatrics, 78*, 307-310. https://dx.doi.org/10.1007/s12098-010-0219-6

Rana, M., Gupta, M., Malhi, P., Grover, S., & Kaur, M. (2018). Effectiveness of a multicomponent school based intervention to reduce bullying among adolescents in Chandigarh, North India: A quasi-experimental study protocol. *Journal of Public Health Research, 7*, 50-55. https://doi.org/10.4081/jphr.2018.1304

Ray, J. V., Thornton, L. C., Frick, P. J., Steinberg, L., & Cauffman, E. (2016). Impulse control and callous-unemotional traits distinguish patterns of delinquency and substance use in justice involved adolescents: Examining the moderating role of neighborhood context. *Journal of abnormal child psychology, 44*, 599-611. doi: 10.1007/s10802-015-0057-0

Reijntjes, A., Vermande, M., Thomaes, S., Goossens, F., Olthof, T., Aleva, L., & Van der Meulen, M. (2016). Narcissism, bullying, and social dominance in youth: A longitudinal analysis. *Journal of Abnormal Child Psychology, 44*, 63-74. https://doi.org/10.1007/s10802-015-9974-1

Reulbach, U., Ladewig, E. L., Nixon, E., O'Moore, M., Williams, J., & O'Dowd, T. (2013). Weight, body image and bullying in 9-year-old children. *Journal of Pediatrics and Child Health, 49*, 288-293. https://doi.org/10.1111/jpc.12159

Rigby, K. (2004). Addressing bullying in schools: Theoretical perspectives and their implications. *School Psychology International, 25*, 287-300. https://doi.org/10.1177/0143034304046902

Salekin, R. T. (2016). Psychopathy in childhood: Toward better informing the DSM–5 and ICD-11 conduct disorder specifiers. *Personality Disorders: Theory, Research, and Treatment, 7*, 180-191. https://doi.org/10.1037/per0000150

Salekin, R. T., Andershed, H., Batky, B. D., & Bontemps, A. P. (2018). Are callous unemotional (CU) traits enough?. *Journal of Psychopathology and Behavioral Assessment, 40*, 1-5. https://doi.org/10.1007/s10862-018-9663-9

Salmivalli, C., & Peets, K. (2009). Bullies, victims, and bully-victim relationships in middle childhood and early adolescence. In Rubin, K., Bukowski, W., & Laursen, B. (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 322-340). New York, NY: Guilford Press. Retrieved from http://psycnet.apa.org/record/2008-19117-018

Salmivalli, C., Lagerspetz, K., Björkqvist, K., Österman, K., & Kaukiainen, A. (1996). Bullying as a group process: Participant roles and their relations to social status within the group. *Aggressive Behavior, 22*, 1-15. https://dx.doi.org/10.1002/(SICI)1098-2337(1996)22:1<1::AID-AB1>3.0.CO;2-T

Samanta, A., Mukherjee, S., Ghosh, S., & Dasgupta, A. (2012). Mental health, protective factors and violence among male adolescents: a comparison between urban

and rural school students in West Bengal. *Indian Journal of Public Health, 56*, 155-158. https://dx.doi.org/10.4103/0019-557X.99916

Sameroff, A. (2009). The transactional model. In A. Sameroff (Ed.), *The transactional model of development: How children and contexts shape each other* (pp. 3-21). Washington, DC, US: American Psychological Association. http://dx.doi.org/10.1037/11877-001

Sarkhel, S., Sinha, V. K., Arora, M., & Desarkar, P. (2006). Prevalence of conduct disorder in school children of Kanke. *Indian Journal of Psychiatry, 48*, 159-164. https://doi.org/10.4103/0019-5545.31579.

Schäfer, M., Stoiber, M., Bramböck, T., Letsch, H., Starch, K., & Sundaram, S. (2018). Participant roles in bullying: What data from Indian classes can tell us about the phenomenon. In P. K. Smith, S. Sundaram, B. A. Spears, C. Blaya, M. Schäfer, & D. Sandhu (Eds.), *Bullying, cyberbullying and student well-being in schools: Comparing European, Australian and Indian perspectives.* (pp. 130-145). New York, NY: Cambridge University Press.

Schlomer, G. L., Bauman, S., & Card, N. A. (2010). Best practices for missing data management in counseling psychology. *Journal of Counseling Psychology, 57*(1), 1. https://dx.doi.org/10.1037/a0018082

Schneider, K. S., O'Donnell, L., Stueve, A., & Coulter, R. W. S. (2012). Cyberbullying, school bullying, and psychological distress: A regional census of high school students. *American Journal of Public Health, 102*, 171-177. https://doi.org/10.2105/AJPH.2011.300308

Schrum, C. L., & Salekin, R. T. (2006). Psychopathy in adolescent female offenders. *Behavioral Sciences & the Law, 24*, 39-63. https://doi.org/10.1002/bsl.679

Sethi, S., Setiya, R., & Kumar, A. (2019). Prevalence of school bullying in middle school children in urban Rohtak, State Haryana, India. *Journal of Indian Association for*

Child and Adolescent Mental Health, 15, 13-28.

Sharma, D., Kishore, J., Sharma, N., & Duggal, M. (2017). Aggression in schools: Cyberbullying and gender issues. *Asian Journal of Psychiatry, 29*, 142-145. https://dx.doi.org/10.1016/j.ajp.2017.05.018

Sharma, D., Mehari, K. R., Kishore, J., Sharma, N., & Duggal, M. (2020). Pilot Evaluation of Setu, a School-Based Violence Prevention Program Among Indian Adolescents. *The Journal of Early Adolescence*, 1-25. https://doi.org/10.1177/0272431619899480

Sharma, K. L. (2012). Is there today Caste System or there is only Caste in India?. *Polish Sociological Review, 178*, 245-264. http://www.jstor.org/stable/41969443

Sheikh, Y. A. (2017). Higher education in India: Challenges and opportunities. *Journal of Education and Practice, 8*, 39-42. Retrieved from https://eric.ed.gov/?id=EJ1131773

Sheinbein, D. H., Stein, R. I., Hayes, J. F., Brown, M. L., Balantekin, K. N., Conlon, R. P. K., ... & Epstein, L. H. (2019). Factors associated with depression and anxiety symptoms among children seeking treatment for obesity: A social-ecological approach. *Pediatric Obesity,* e12518. https://doi.org/10.1111/ijpo.12518

Shieh, G. (2016). Choosing the best index for the average score intraclass correlation coefficient. *Behavior Research Methods, 48*, 994-1003. http://dx.doi.org/10.3758/s13428-015-0623-y

Shinde, S., Weiss, H. A., Khandeparkar, P., Pereira, B., Sharma, A., Gupta, R., ... & Patel, V. (2020). A multicomponent secondary school health promotion intervention and adolescent health: An extension of the SEHER cluster randomised controlled trial in Bihar, India. *PLoS medicine, 17*, e1003021. https://doi.org/10.1371/journal.pmed.1003021

Shinde, S., Weiss, H. A., Varghese, B., Khandeparkar, P., Pereira, B., Sharma, A. . . . Patel, V. (2018). Promoting school climate and health outcomes with the SEHER

multi-component secondary school intervention in Bihar, India: a cluster-randomised controlled trial. *Lancet, 392*, 2465-2477. https://doi.org/10.1016/S0140-6736(18)31615-5.

Sidanius, J., Pratto, F., Van Laar, C., & Levin, S. (2004). Social dominance theory: Its agenda and method. *Political Psychology, 25*, 845-880. https://doi.org/10.1111/j.1467-9221.2004.00401.x

Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence.* Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195152968.001.0001

Sinha, J. B., Singh, S., Gupta, P., Srivastava, K. B., Sinha, R. B. N., Srivastava, S., ... & Srivastava, S. (2010). An exploration of the Indian mindset. *Psychological Studies, 55*, 3-17. https://doi.org/10.1007/s12646-010-0001-x

Skrzypiec, G., Alinsug, E., Nasiruddin, U. A., Andreou, E., Brighi, A., Didaskalou, E. . . . Yang, C. C. (2018). Self-reported harm of adolescent peer aggression in three world regions. *Child Abuse and Neglect, 85*, 101-117. doi:10.1016/j.chiabu.2018.07.030

Skrzypiec, G., Slee, P., & Sandhu, D. (2015). Using the Photostory Method to Understand the Cultural Context of Youth Victimization in the Punjab. *International Journal of Emotional Education, 7*, 52-68.

Skrzypiec, G., Slee, P., Sandhu, D., & Kaur, S. (2018). Bullying or peer aggression? A pilot study with Punjabi adolescents. In P. K. Smith, S. Sundaram, B. A. Spears, C. Blaya, M. Schäfer, & D. Sandhu (Eds.), *Bullying, cyberbullying and student well-being in schools: Comparing European, Australian and Indian perspectives.* (pp. 45-60). New York, NY: Cambridge University Press.

Smith, P. K., & Ananiadou, K. (2003). The nature of school bullying and the effectiveness of school-based interventions. *Journal of Applied Psychoanalytic Studies*, 5, 189-209. http://dx.doi.org/10.1023/A:1022991804210

Smith, P. K., Sundaram, S., Spears, B. A., Blaya, C., Schäfer, M., & Sandhu, D. (Eds.).

(2018). *Bullying, cyberbullying and student well-being in schools: Comparing European, Australian and Indian perspectives.* New York, NY: Cambridge University Press.

Smokowski, P. R., & Kopasz, K. H. (2005). Bullying in school: An overview of types, effects, family characteristics, and intervention strategies. Children & Schools, 27, 101-110. https://doi.org/10.1093/cs/27.2.101

Sousa, V. D., & Rojjanasrirat, W. (2011). Translation, adaptation and validation of instruments or scales for use in cross-cultural health care research: a clear and user-friendly guideline. *Journal of Evaluation in Clinical Practice, 17*, 268-274. doi:10.1111/j.1365-2753.2010.01434.x

Srisiva, R., Thirumoorthi, R., & Sujatha, P. (2013). Prevalence and prevention of school bullying-a case study of Coimbatore City, Tamilnadu, India. International Journal of Humanities and Social Science Invention, 2, 36-45. http://ijhssi.org/papers/v2(5)/version-4/F2503645.pdf

Suresh, S., & Tipandjan, A. (2012). School bullying victimization and college adjustment. *Journal of the Indian Academy of Applied Psychology, 38*, 68-73.

Sutton, J., Smith, P. K., & Swettenham, J. (2001). Bullying and 'theory of mind': A critique of the 'social skills deficit' view of anti-social behavior. *Social Development*, *8*, 117-127. https://doi.org/10.1111/1467-9507.00083

Swain, S., Mohanan, P., Sanah, N., Sharma, V., & Ghosh, D. (2014). Risk behaviors related to violence and injury among school-going adolescents in Karnataka, Southern India. *International Journal of Adolescent Medicine and Health, 26*, 551-558. https://dx.doi.org/10.1515/ijamh-2013-0334

Swearer, S. M., Martin, M., Brackett, M., & Palacios, R. A. (2017). Bullying intervention in adolescence: The intersection of legislation, policies, and behavioral change. *Adolescent Research Review*, *2*, 23-35. https://doi.org/10.1007/s40894-016-0037-9

Tabatabai, M. A., Li, H., Eby, W. M., Kengwoung-Keumo, J. J., Manne, U., Bae, S., ... & Singh, K. P. (2014). Robust logistic and probit methods for binary and multinomial regression. *Journal of Biometrics & Biostatistics, 5*(4), 202-210. doi: 10.4172/2155-6180.1000202

Thakkar, N., van Geel, M., & Vedder, P. (2020). A systematic review of bullying and victimization among adolescents in India. *International Journal of Bullying Prevention*, 1-17. https://doi.org/10.1007/s42380-020-00081-4

Thakkar, N., van Geel, M., Malda, M., Rippe, R. C., & Vedder, P. (2019). Bullying and psychopathic traits: A longitudinal study with adolescents in India. *Psychology of Violence, 10,* 223-231. https://doi.org/10.1037/vio0000277.

Thakkar, N., van Geel, M., Malda, M., Rippe, R. C., & Vedder, P. (2020). Body mass index and peer victimization: A transactional model. *Aggressive Behavior, 1-11*. doi:10.1002/ab.21942

Thornberg, R. (2015). The social dynamics of school bullying: The necessary dialogue between the blind men around the elephant and the possible meeting point at the social-ecological square. *Confero: Essays on Education, Philosophy and Politics*, *3*, 161-203. doi: 10.3384/confero.2001-4562.1506245

Tigges, B. B. (2003). Parental consent and adolescent risk behavior research. *Journal of Nursing Scholarship, 35*, 283-289. https://doi.org/10.1111/j.1547-5069.2003.00283.x

Tippett, N., & Wolke, D. (2014). Socioeconomic status and bullying: a meta-analysis. *American Journal of Public Health, 104*, 48-59. https://doi.org/10.2105/AJPH.2014.301960

Turner, J.C. (1987). *Rediscovering the social group: A self categorization theory*. New York: Basil Blackwell.

United Nations Children's Fund. (UNICEF, 2019). *Adolescent Development and Participation*. Retrieved from https://www.unicef.org/india/what-we-do/

adolescent-development-participation

United Nations Children's Fund. (UNICEF, 2019). *Safer Internet Day: UNICEF calls for concerted action to prevent bullying and harassment for the over 70 per cent of young people online worldwide.* https://www.unicef.org/india/press-releases/safer-internet-day-unicef-calls-concerted-action-prevent-bullying-and-harassment

United Nations Population Fund (2014). *State of world population 2014: The power of 1.8 billion. adolescents, youth and the transformation of the future*. New York: UNFPA. Available from https://www.unfpa.org/resources/state-world-population-2014-fact-sheet-youth-asia

Vallejo, G., Ato, M., Fernández, M. P., & Livacic-Rojas, P. E. (2019). Sample size estimation for heterogeneous growth curve models with attrition. *Behavior Research Methods, 51*, 1216-1243. https://doi.org/10.3758/s13428-018-1059-y

Van Baardewijk, Y., Andershed, H., Stegge, H., Nilsson, K. W., Scholte, E., & Vermeiren, R. (2010). Development and tests of short versions of the youth psychopathic traits inventory and the youth psychopathic traits inventory-child version. *European Journal of Psychological Assessment, 26,* 122-128. https://doi.org/10.1027/1015-5759/a000017

Van der Ploeg, T., Austin, P. C., & Steyerberg, E. W. (2014). Modern modeling techniques are data hungry: a simulation study for predicting dichotomous endpoints. *BMC Medical Research Methodology, 14*, 137. https://doi.org/10.1186/1471-2288-14-137

Van Geel, M., Goemans, A., Zwaanswijk, W., Gini, G., & Vedder, P. (2018). Does peer victimization predict low self-esteem, or does low self-esteem predict peer victimization? Meta-analyses on longitudinal studies. *Developmental Review, 49*, 31-40. https://doi.org/10.1016/j.dr.2018.07.001

Van Geel, M., Toprak, F., Goemans, A., Zwaanswijk, W., & Vedder, P. (2017). Are youth

psychopathic traits related to bullying? Meta-analyses on callous-unemotional traits, narcissism, and impulsivity. *Child Psychiatry & Human Development*, *48*, 768-777. https://doi.org/10.1007/s10578-016-0701-0

Van Geel, M., Vedder, P., & Tanilon, J. (2014). Are overweight and obese youths more often bullied by their peers? A meta-analysis on the relation between weight status and bullying. *International Journal of Obesity, 38*, 1263-1267. https://doi.org/10.1038/ijo.2014.117

VanderWeele, T., & Vansteelandt, S. (2014). Mediation analysis with multiple mediators. *Epidemiologic Methods, 2,* 95-115. doi: 10.1515/em-2012-0010

Veenstra, R., Lindenberg, S., Zijlstra, A. J., De Winter, A. F., Verhulst, F. C., & Ormel, J. (2007). The dyadic nature of bullying and victimization: Testing a dual-perspective theory. *Child Development, 78*, 1843-1854. https://doi.org/10.1111/j.1467-8624.2007.01102.x

Verkuyten, M., & De Wolf, A. (2002). Ethnic minority identity and group context: self-descriptions, acculturation attitudes and group evaluations in an intra-and intergroup situation. *European Journal of Social Psychology, 32*, 781-800. doi: 10.1002/ejsp.121

Verkuyten, M., & Thijs, J. (2002). Racist victimization among children in the Netherlands: The effect of ethnic group and school. *Ethnic and Racial Studies, 25*, 310-331. https://doi.org/10.1080/01419870120109502

Verma, J. (2004). Social values. In J. Pandey (Ed.), *Psychology in India Revisited - Developments in the Discipline: Applied Social and Organizational Psychology,* (Vol. 3, pp. 60-117). New Delhi: Sage Publications.

Waasdorp, T. E., Mehari, K., & Bradshaw, C. P. (2018). Obese and overweight youth: Risk for experiencing bullying victimization and internalizing symptoms. *American Journal of Orthopsychiatry, 88*, 483-491. https://doi.org/10.1037/ort0000294

Wilson, C. (2010). 'Eating, eating is always there': food, consumerism and cardiovascular

disease. Some evidence from Kerala, South India. *Anthropology & Medicine, 17*, 261-275. https://doi.org/10.1080/13648470.2010.526699

Windhorst, D. A., Mileva-Seitz, V. R., Rippe, R. C., Tiemeier, H., Jaddoe, V. W., Verhulst, F. C., ... & Bakermans-Kranenburg, M. J. (2016). Beyond main effects of gene-sets: harsh parenting moderates the association between a dopamine gene-set and child externalizing behavior. *Brain and Behavior*, *6*, e00498. https://doi.org/10.1002/brb3.498

Wolke, D., Lee, K., & Guy, A. (2017). Cyberbullying: a storm in a teacup?. *European Child & Adolescent Psychiatry*, *26*, 899-908. https://doi.org/10.1007/s00787-017-0954-6

World Health Organization. (2018). Childhood overweight and obesity. Retrieved from https://www.who.int/dietphysicalactivity/childhood/en/

World Health Organization. (WHO, 2020). *Noncommunicable diseases*: *Childhood overweight and obesity*. https://www.who.int/dietphysicalactivity/childhood/en/

Yang, L., Bovet, P., Ma, C., Zhao, M., Liang, Y., & Xi, B. (2019). Prevalence of underweight and overweight among young adolescents aged 12–15 years in 58 low-income and middle-income countries. *Pediatric obesity, 14*, e12468. https://doi.org/10.1111/ijpo.12468

ACKNOWLEDGEMENT

To my mentors, Prof. Dr. Paul Vedder and Dr. Mitch van Geel, I cannot be more thankful. You have been patient and inspiring, and guided me at each step of the way, personally as well as academically. To Maike, this journey has truly been as much yours, as mine, I love you and am deeply grateful for having found a friend in you. Ralph, you made the impossible possible by giving meaning to statistics for me, with such natural ease, that today I actually enjoy numbers. I also thank my amazing colleagues at the department, Anouk, Merel (and Merel's mother, Lian), Rianne, Wendy, Roxette, Siuman, Lucy, Marit, and Radhika, you made Leiden home for me. Thank you Coen, my dear friend, you are often in my thoughts.

I thank my mother-in-law, Karuna Khatwani, whose energy, selflessness, and belief in me have been of great value through this journey. To my mother, Vipula, who declared me a "doctor" before I even wrote the first word of this book, your pride in me, eagerness, and support have always made me achieve my highest potential, I love you. To Shalini, the sister I never had, you taught me that a little play never hurt anyone, and ensured that I didn't become a dull academician. To my father-in-law, Shyam Khatwani, and the whole Thakkar and Khatwani clan, I love you all. My friends, Aman, Rahul, Ankit, Lourdes, Kim, Nick, John, Taylor, Prerna, Jeston, who were mostly all indifferent to the PhD, but inspired me to bring home wonderful stories of Amsterdam these past years.

My brother, Sameer, who is my strength and my rock, I owe you everything. You are the mirror that has always shown me truth, unconditional love, warmth, and inspiration. Ritik, my best friend and mi amor, you are the reason for all the good I am and I can ever be. The most compassionate genius I have ever come across, your loving support has helped me find passion and purpose in life, and empowered me to be

the woman of substance as I am today and as you foresaw since I was a girl. To Papa, who held my hand and carried me through, tempered my ambitions, and encouraged independence and critical thinking against all conventions, you are the reason for the love in my heart, the wit in my humor, the spine in my back, and the strength in my will. You will forever be in my thoughts, and I will always love you.

BIOGRAPHY

Niharika Thakkar was born on September 6th, 1988, in Indore, India. Her family moved to Bombay (now Mumbai) when she was 3 years old where she completed her schooling at Jankidevi Public School. She earned her junior college degree in Science (Physics, Chemistry, and Mathematics), from Mithibai College, Mumbai in 2006. By 2009, Niharika graduated with a major in Psychology, and a minor in English literature, from Fergusson College, Pune. She earned her Masters Degree, in Clinical Psychology in 2011, ranking first at Fergusson College, University of Pune in the final semester. As part of her Masters, she did a clinical internship with Dr. Hemant Chandorkar (Psychiatrist) and wrote her Masters thesis in Graphology and Personality: A Correlational study. She was also awarded the "most deserving candidate of the year" scholarship during her Masters in her final year. Thereafter, she worked at the Department of Behavioral Sciences and Mental Health at Sahyadri hospitals, Pune as a clinical Psychologist. After working for over a year, she moved to her hometown, Indore, where she headed and worked at the Department of Psychology at Ankur Rehabilitation Center, Indore. By 2014, she started working as a post-graduate teacher of Psychology at Sri Sathaya Sai Vidya Vihar School, Indore. She started as a PhD candidate at the Institute of Education and Child Studies, Leiden University under the supervision of Prof. Dr. Paul Vedder and Dr. Maike Malda in June 2014. After Maike moved to Amsterdam University Medical Center, Mitch van Geel became the co-supervisor. Alongside her PhD work, she also worked as a consultant-psychologist in collaboration with several Psychiatrists, and ran her clinic soon after till 2015 in Indore. Towards the end of 2015, she moved to USA. Niharika was then involved in a National Science Foundation (NSA)-funded research project that focused on the conceptual understanding of key algebra concepts from August, 2018 to November, 2019 at the Borough of Manhattan Community College,

City University of NewYork. She later moved on to work as a Research Associate at the Center for Family Services in greater New York in December 2019. In July 2020, she founded PsychLine.in, an online mental health organization that aims to provide good-quality care and education to all in India. Since the CoVid-19 pandemic, she has been dedicating all her time to her organization, and wishes to pursue her purpose in creating mental, emotional, and social health awareness in India.

LIST OF PUBLICATIONS

Thakkar, N., van Geel, M., & Vedder, P. (2020). A systematic review of bullying and victimization among adolescents in India. *International Journal of Bullying Prevention*, 1-17. https://doi.org/10.1007/s42380-020-00081-4

Thakkar, N., van Geel, M., Malda, M., Rippe, R. C. A., & Vedder, P. (2020). Bullying and psychopathic traits: A longitudinal study with adolescents in India. *Psychology of Violence, 10*, 223-231. https://doi.org/10.1037/vio0000277

Thakkar, N., van Geel, M., Malda, M., Rippe, R. C., & Vedder, P. (2021). Body mass index and peer victimization: A transactional model. *Aggressive Behavior*, *47*, 236-246. https://doi.org/10.1002/ab.21942

Thakkar, N., van Geel, M., Malda, M., Rippe, R. C., & Vedder, P. (submitted). The role of social and self-perceived socio-economic minority status in peer victimization in India.