CORRELATES OF SUBJECTIVE WELL-BEING, SELF-ESTEEM AND SELF-EFFICACY AMONG 15-YEAR-OLD ADOLESCENTS IN ANDHRA PRADESH AND TELANGANA, INDIA

A SOCIAL-ECOLOGICAL APPROACH

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Thesis submitted in partial fulfilment of the requirements for the degree
'Master of Philosophy in Global Development Theory and Practice'

Specialisation in Health Promotion

Spring 2019

Department of Health Promotion and Development

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Acknowledgements

The two years that I have spent studying in the Department of Health Promotion and Development at the University of Bergen have been challenging, enriching and rewarding. I have thoroughly enjoyed my time as a student of Global Development Theory and Practice and have grown as both an academic and an individual. I am grateful for all the people who supported me during this experience, including my inspiring colleagues and lecturers.

This thesis is the cumulation of 12-months of hard work, and I could not have achieved this feat on my own. I owe many thanks to my first supervisor Paul Kellner. He played a vital role in the early stages of my thesis and is responsible for introducing me to the Young Lives study. He offered guidance and encouragement and helped me to find the right track when I was struggling to determine the direction of my research.

Furthermore, Helga Bjørnøy Urke, who supervised me for the latter half of my thesis was vital to my success. Her guidance, patience and expertise helped me through my research and writing processes. She encouraged me and challenged me in equal measures and provided valuable feedback and advice which have been integral to this work.

I am also hugely thankful for the support of my colleagues, classmates, friends and family. I am grateful for all that they have done for me over the past two years and for their interest in my research and personal life. I also owe a lot of thanks to my boss and mentor Christine Gaffney and Team TTD for giving me a chance to extend myself outside of academia. Working at The Travel Designer has been, and continues to be, a privilege.

Most of all, I could never have done this without the support of my partner Jon Espen Riiser. He helped me through the tough times and celebrated with me when I succeeded, and I am incredibly grateful for his encouragement and care.

Finally, thank you to the Oxford Department of International Development, the Young Lives team, and the Young Lives children and their families. I could not have done this without you.

The data used in this thesis come from Young Lives, a 15-year study of the changing nature of childhood poverty in Ethiopia, India, Peru and Vietnam (www.younglives.org.uk). Young Lives is funded by UK aid from the Department for International Development (DFID). The views expressed here are those of the author. They are not necessarily those of Young Lives, the University of Oxford, DFID or other funders.

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Abstract

Background: Today, there are more young people than at any other time in human history. This large and growing group offers unprecedented potential for economic and social progress. In particular, our 1.2 billion adolescents between the ages of 10 and 19 are integral to meeting the Sustainable Development Goals. Subsequently, studying and supporting their strengths and skills is essential. India is home to more adolescents than any other nation and this cohort of young people represents a great demographic dividend. Within health promotion, health is seen as an important resource for life, which encompasses social and personal capabilities and physical fortitude. Important health-related outcomes which have notable benefits during adolescence and beyond are subjective well-being and psychosocial skills, including self-esteem and self-efficacy.

Analytical model: Guided by the principles of positive youth development, an ecological approach was adopted to study correlates of subjective well-being, self-esteem and self-efficacy among Indian adolescents. A conceptual framework was produced based on the Ecological Systems Model (ESM) (Bronfenbrenner 1979, 1986).

Research objective and questions: This study sought to address the following core objective; to understand the relationship between individual and social-ecological factors and the well-being and psychosocial skills of adolescents in Andhra Pradesh and Telangana, India. Two main research questions were asked. The first question was "what microsystem factors out of caregiver characteristics, parent relations and peer relations, are associated with the subjective well-being, self-esteem and self-efficacy of 15-year-old Indian adolescents?" A related sub-question was also asked: "are parent relations or peer relations more important for subjective well-being, self-esteem and self-efficacy among 15-year-old Indian adolescents?" The second question was "what other factors at the individual, exosystem, macrosystem and chronosystem levels help to explain the variation in subjective well-being, self-esteem and self-efficacy among 15-year-old Indian adolescents?"

Data and methods: The design was a secondary analysis of data from Young Lives for the Younger Cohort in India (Andhra Pradesh and Telangana states). This study primarily used data from Round 5, collected in 2016 when the adolescents were 15 years old (N = 1900). Hierarchical multiple regression analysis was performed to develop models accounting for the best available variance in subjective well-being, self-esteem and self-efficacy, given the limits of available variables. Sets of covariates were offered in blocks, based on the ESM.

Results and discussion: In the final adjusted models, caregiver's subjective well-being, coming from a subjectively poor household, state of residence, Peabody Picture Vocabulary Test (PPVT) score (used to represent cognitive ability), parent relations, and school enrolment status were significantly associated with subjective well-being. Significant correlates of self-esteem were: peer relations, parental relations, state of residence, caregiver's pride, caregiver's agency, and caregiver's subjective well-being. Peer relations, parent relations, school enrolment, PPVT score, Wealth Index (WI), caregiver's pride and gender were significant correlates of self-efficacy. The non-representative study sample has restricted the generalisability of this study. There were also analytical limitations, including the cross-sectional design which prevented the assessment of causality. However, this thesis has offered insights into the associations between different individual and social-ecological factors and subjective well-being, self-esteem and self-efficacy, and has drawn attention to an insufficiently researched topic, country and context.

Conclusion: The results of this study were consistent with the theory that positive adolescent development occurs across multiple milieus. It was concluded that health promotion initiatives should target several contexts simultaneously. By building on existing research, this thesis has generated valuable information which may be used to guide further studies and encourage the introduction of appropriate and effective youth-centred health promotion programmes in India.

Keywords: Health promotion, adolescence, India, subjective well-being, psychosocial skills, self-esteem, self-efficacy, positive youth development, ecological theory

1. Introduction

1.1 Background

In the 2030 Agenda for Sustainable Development, the importance of recognising, understanding and serving the specific needs and rights of young people is explicitly addressed (United Nations, 2015b). The 17 Sustainable Development Goals (SDGs) and associated targets incorporate a range of issues affecting youth on a global scale: poverty, health and well-being, gender relations, education, and more (United Nations, 2015a, 2018). Subsequently, to achieve the SDGs, learning from and investing in youth is essential.

Today, there are more than 1.2 billion adolescents aged 10-19 years old globally (Sheehan et al., 2017). This is the largest adolescent population in history, and the number of young people is continuing to rise (Global Coalition to End Child Poverty, 2017).[1] Almost 90% of adolescents live in low-income and middle-income nations (Ford, 2018; Sawyer et al., 2012). Specifically, 243 million of these adolescents reside in India, accounting for 21% of the Indian population (Sivagurunathan, Umadevi, Rama, & Gopalakrishnan, 2015).

Adolescents are often neglected as a population group in health research, being either aggregated with children or young adults. Inadequate attention has been paid to their unique skills, experiences and needs (Patton et al., 2018). This is especially true of disadvantaged adolescents for whom the adverse effects of poverty are a daily reality (Žukauskienė, 2014). This thesis contributed to the adolescent health and development literature by analysing the relationship between some individual and social-ecological factors and the subjective well-being and psychosocial skills of adolescents in India. These positive health-related outcomes are vital resources during adolescence and beyond (Glozah, 2015; Yorke & Portela, 2018).

1.2 Adolescent Health and Development

Adolescence is the transitional period between childhood and adulthood where much physiological, psychological and psychosocial change occurs (Bista, Thapa, Sapkota, Singh, & Pokharel, 2016; Rajachar & Gupta, 2017). During adolescence, opportunities for present health are great, and foundations are laid for future outcomes (Maliye & Garg, 2017; Sawyer et al., 2012). The physical, social and cognitive capabilities, obtained during adolescence, influence health and well-being throughout the life-course, and adolescent lifestyle practices

[1] 'Young people' refers to the wider category of people aged 10–24 years old, of which there are 1.8 billion globally (Sawyer et al., 2012). 'Youth' is also used interchangeably with 'young people' (United Nations, 2018).

can continue into adulthood (Currie et al., 2012). Adolescent development may have long-term consequences for individuals, families and communities (Sheehan et al., 2017).

1.2.1 Adolescent Subjective Well-being

Well-being encompasses the "…positive feelings individuals experience as well as aspects of life characterized by optimal functioning and flourishing" (Glozah, 2015, p. 2). Subjective well-being is related to life satisfaction and denotes how individuals think and feel about their lives (Camfield, Streuli, & Woodhead, 2009; Dolan, Peasgood, & White, 2008). High subjective well-being has notable benefits (De Neve, Diener, Tay, & Xuereb, 2013; Diener & Chan, 2011). Adolescents with a positive sense of well-being "…possess problem-solving skills, social competence and a sense of purpose that can help them rebound from setbacks, thrive in the face of poor circumstances, avoid risk-taking behaviour and continue on to a productive life" (Thomas & Joseph, 2013, p. 118).

It is clear from the literature that adolescence is often a trying time (Smokowski, Evans, Cotter, & Guo, 2014). According to Vranda (2015), around 20% of adolescents globally have mental health or behavioural problems and up to 50% of such issues have their onset during adolescence. Thus, experts within mental health and public health research are recommending all countries to invest in understanding and promoting the well-being of adolescents to prevent the incidence of mental health problems, and break cycles of disadvantage (Ayala-Nunes, Jiménez, Jesus, Nunes, & Hidalgo, 2018; Heckman, 2006; Thomas & Joseph, 2013).

1.2.2 Adolescent Psychosocial Skills

Psychosocial or non-cognitive skills[2] can be described as "…personality traits, goals, character, motivations, and preferences that are valued in the labour market, in school, and in many other domains" (Kautz, Heckman, Diris, Borghans, & ter Weel, 2014, p. 7). Self-esteem and self-efficacy are two psychosocial skills, related to self-concept (Gardner & Pierce, 1998). Self-concept describes the range of beliefs one possesses about oneself (Green, Tones, Cross, & Woodall, 2015), and self-esteem denotes the value, either positive or negative, one attaches to these characteristics (Gardner & Pierce, 1998; Žukauskienė, 2014). Self-efficacy refers to one's sense of agency over their own life, and their belief in their ability to succeed (Dercon & Singh, 2013; Lippman et al., 2014; Yorke & Portela, 2018).

[2] In some research, for example by Krishnan and Krutikova (2013), self-esteem and self-efficacy are described as 'non-cognitive skills.' Subsequently, while this thesis used 'psychosocial skills' as the main term, 'non-cognitive' and 'psychosocial' have been used interchangeably where appropriate.

Research shows that good psychosocial competence in adolescence is associated with better physical, social, emotional and psychological health (Baumeister, Campbell, Krueger, & Vohs, 2003; Bowles, Gintis, & Osborne, 2001; Kautz et al., 2014; Krishnan & Krutikova, 2013; Yorke & Portela, 2018). High self-esteem and self-efficacy have been found to protect adolescents from disorders like depression and anxiety (Siddiqui, 2015; Žukauskienė, 2014), and adolescents who have more psychosocial skills, are also less likely to have behavioural problems, engage in crime, and be violent (Bista et al., 2016). Positive adolescent self-esteem has also been related to pro-social behaviours like volunteering, and the avoidance of risky actions like premarital sex (Favara, Chang, & Sánchez, 2018; Lippman et al., 2014). There are many potential benefits to having high psychosocial skill levels and thus, understanding factors which may be related to their positive development, is important.

1.3 Research Area: Andhra Pradesh and Telangana, India

The data used in this thesis came from Young Lives, a longitudinal study of childhood poverty. Young Lives has followed 12,000 children in four developing countries: Ethiopia, India, Peru and Vietnam (Morrow, 2017).[3] For this research, data from Young Lives India was utilised. India, which is divided into 29 states, is home to 1.3 billion people (Census India, 2013). Young Lives has followed 3,000 children across two states in South East India; Andhra Pradesh and Telangana. Until 2014, Telangana was a part of Andhra Pradesh but became independent in June of that year (Young Lives, 2017). Together the states have almost 85 million inhabitants, 7% of the Indian population (Galab, Reddy, & Singh, 2014).[4]

India has been classified as a low-income country,[5] but its economy is growing rapidly (OECD, 2018; R. Singh, Galab, Reddy, & Benny, 2018). Alongside this, however, inequality is also increasing (Galab et al., 2014; Morrow, 2013b; Sehrawat & Giri, 2015). India's Gini coefficient, a measure of income inequality, has been rising since 1993 (Sehrawat & Giri, 2015). India has more people living below the poverty line than any other country and is home to around one-third of the world's children living in poverty (R. Singh et al., 2018).

[3] The terms 'developing' and 'developed' were used in this thesis for convenience and to maintain consistency with the terminology employed by Young Lives, a study with its roots in 2002 (Morrow, 2017). It is acknowledged that this language is outdated and contested. The use of these terms does not necessarily express a judgement as to the developmental stage of a particular country or area (United Nations, 2018).

[4] 'New' Andhra Pradesh is the eighth-largest state in India, with a total population of 49.3 million. Telangana has a total population of 35.2 million (Census India, 2013).

[5] The terms 'low-income' and 'middle-income' economies were also utilised. These definitions are made by the World Bank based on GNI per capita. As of June 2018, India is classified as a lower-middle-income economy (those countries with a GNI per capita between $996 and $3,895) (The World Bank, 2018).

Substantial international evidence shows that children and young people who grow up in poverty are disproportionately disadvantaged (Camfield, Streuli, & Woodhead, 2009).

India also has the largest adolescent population in the world and this cohort represents a great demographic dividend with unprecedented social and economic developmental potential (Maliye & Garg, 2017; R Singh et al., 2018). For India to capitalise on this competitive advantage, its young people must be healthy and thriving, with the capacity to contribute to sustained and inclusive growth (Samal & Dehury, 2017; Thomas & Joseph, 2013). Yet, psychological distress is a burgeoning issue in India, and adolescent mental health problems are increasing(Maliye & Garg, 2017; Vranda, 2015). According to Bista et al. (2016), in developing countries, including those in South Asia, mental health care systems are worse than in more developed nations. Appropriate research and interventions are sorely needed (Samal & Dehury, 2017).

1.4 Thesis Aims and Objectives

Healthy adolescent development occurs across multiple contexts (Giannakopoulos et al., 2009; Youngblade et al., 2007). Given the prevalence and potential of adolescents in India, the pivotal nature of the mid-adolescent period, and the benefits which may result from high subjective well-being and psychosocial competencies, it is valuable to explore which factors are correlated with subjective well-being, self-esteem and self-efficacy among 15-year-old Indian adolescents. Adolescence is increasingly being identified as a crucial window of opportunity for effective interventions (Ford, 2018). A holistic, ecological approach is useful for understanding how various factors may be associated with positive health-related outcomes (Mittelmark, Wold, & Samdal, 2012).

This thesis sought to create a systemic understanding of factors associated with positive adolescent development in India, focusing on three key health-related outcomes. The core objective was to understand the relationship between individual and social-ecological factors and the subjective well-being and psychosocial skills of adolescents in Andhra Pradesh and Telangana, India.

1.5 Contribution to the Health Promotion Field

Health promotion is concerned with empowering individuals and communities to increase control over the determinants of health and take command of their own well-being (Samdal & Wold, 2012). Social determinants of health are the circumstances in which people are born,

live, and work, as well as supportive structures (Currie et al., 2012; WHO, 2017). The Ottawa Charter (1986), signed at the First International Conference on Health Promotion, outlined five principles of health promotion action: build healthy public policy, create supportive environments, strengthen community action, develop personal skills, and reorient health services (WHO, 1986). It involves the whole population in the context of their daily lives, rather than concentrating solely on at-risk individuals. Thus, health promotion is dependent on reaching the settings in which people live and exploring their development in and across different spheres (Mittelmark et al., 2012). An ecological perspective is guiding evermore health promotion research and the importance of micro-level and macro-level conditions are being widely-acknowledged (Wold & Mittelmark, 2018).

Across the adolescent health and development field, interest in positive youth development has been increasing. Some researchers are moving away from the traditional pathological focus on child and adolescent deficiencies and problems, to acknowledge and support the latent qualities and abilities of young people (Shek & Merrick, 2015). A strength-based approach is on the rise. According to Wold (2012), "the main mission of health promotion is to identify which type of interactions foster positive development" (p. 68). By utilising an ecological approach and focusing on some of the correlates of positive adolescent outcomes, this thesis may be used to guide further health promotion research. This work could also inform the production of relevant, targeted programmes and interventions to support youth functioning and subsequently, foster social development (Samal & Dehury, 2017; Viner & Macfarlane, 2005). Adolescence is a time of opportunity, and India's millions of adolescents are a catalyst for change. Studying their psychosocial situation is an integral step in promoting their prosperity and encouraging India's sustainable development.

1.6 Structure and Overview

This thesis is organised into eight chapters. In this chapter, Chapter 1, the topic was introduced. Then, in Chapter 2 the theoretical framework used to guide the research process is outlined, followed by a review of the literature in Chapter 3. The specific research questions are described in Chapter 4, and the research methods and ethical considerations are explained in Chapter 5. In Chapter 6, the results are reported. In Chapter 7, the discussion chapter, the results are interpreted in relation to relevant literature and theory. Limitations and strengths are also examined. This is followed by the final chapter, Chapter 8, in which some implications are considered, and final conclusions are made.

2. Theory

2.1 Positive Youth Development

The main goal of positive youth development research and practice is to "…help adolescents become socially, morally, emotionally, physically and cognitively competent" (Thomas & Joseph, 2013, p. 116). The research field of positive youth development links a variety of contexts to the production of opportunities known to enhance constructive developmental outcomes (Benson, Scales, Hamilton, & Sesma, 2007). The environments in which young people live play a crucial role in shaping their health and well-being and there is substantial evidence that numerous outcomes are susceptible to external influences (Currie et al., 2012; Sawyer et al., 2012; Yorke & Portela, 2018; Žukauskienė, 2014).

Founding researchers in human development deemed adolescence a critical time in the life course (Bronfenbrenner, 1979; Erikson, 1968). Erik Erikson's psychosocial stage theory provides a useful starting point for understanding adolescent outcomes, especially with regards to personality and identity (Erikson, 1963, 1968). Erikson was interested in the impact of social experiences and relationships and played a valuable role in recognising that development is influenced by sociocultural determinants, some of which are particularly salient during adolescence (Sawyer et al., 2012). Inspired by Erikson and his stages of psychosocial development, the core theoretical basis for this study was Urie Bronfenbrenner's ecological systems theory (1979).

2.1.1 Urie Bronfenbrenner: Ecological Systems Theory

Bronfenbrenner built on the work of Freud, Erikson, Piaget and others to produce his ecological systems theory (Bronfenbrenner, 1979). While Bronfenbrenner did agree that individual development occurs in stages, he was more concerned with the interplay of the various nested environments in which children are embedded, from the micro to the macro (Aarø & Flisher, 2012). The use of the term ecological clearly denotes how Bronfenbrenner conceptualised development as a resulting from interactions between individual and context (Rosa & Tudge, 2013). Compared to Erikson's earlier work, Bronfenbrenner took better account of the different systemic influences which collectively affect human development. Individual child characteristics and wider environmental factors may all impact skills and behaviours (McLeroy, Bibeau, Steckler, & Glanz, 1988; Smokowski et al., 2014). Bronfenbrenner's work has been monumental in human development research over the last few decades. His ecological model has been instrumental in shaping the theory, research, and

practice of positive youth development (Benson et al., 2007). An ecological approach to health promotion has been found to be highly effective, by taking into account how conditions at various societal levels are associated with health-related outcomes (Samdal & Wold, 2012).

Bronfenbrenner's ecological theory evolved over many years and been used and adapted by different researchers, across various disciplines (Rosa & Tudge, 2013). It should be noted that the systems he described have been captured and defined in rather diverse ways throughout the literature. This thesis offers one interpretation. Wold and Samdal (2012) described some of the ways an ecological systems approach had been applied within the general field of public health. The following framework (Figure 1) was produced with reference to this literature base and Bronfenbrenner's theory (1979, 1986). The Ecological Systems Model (ESM) with its nested contexts (Dubow, Huesmann, & Boxer, 2009), was used to explore potential associations between individual and social-ecological factors, and the subjective well-being and psychosocial skills of adolescents in India.

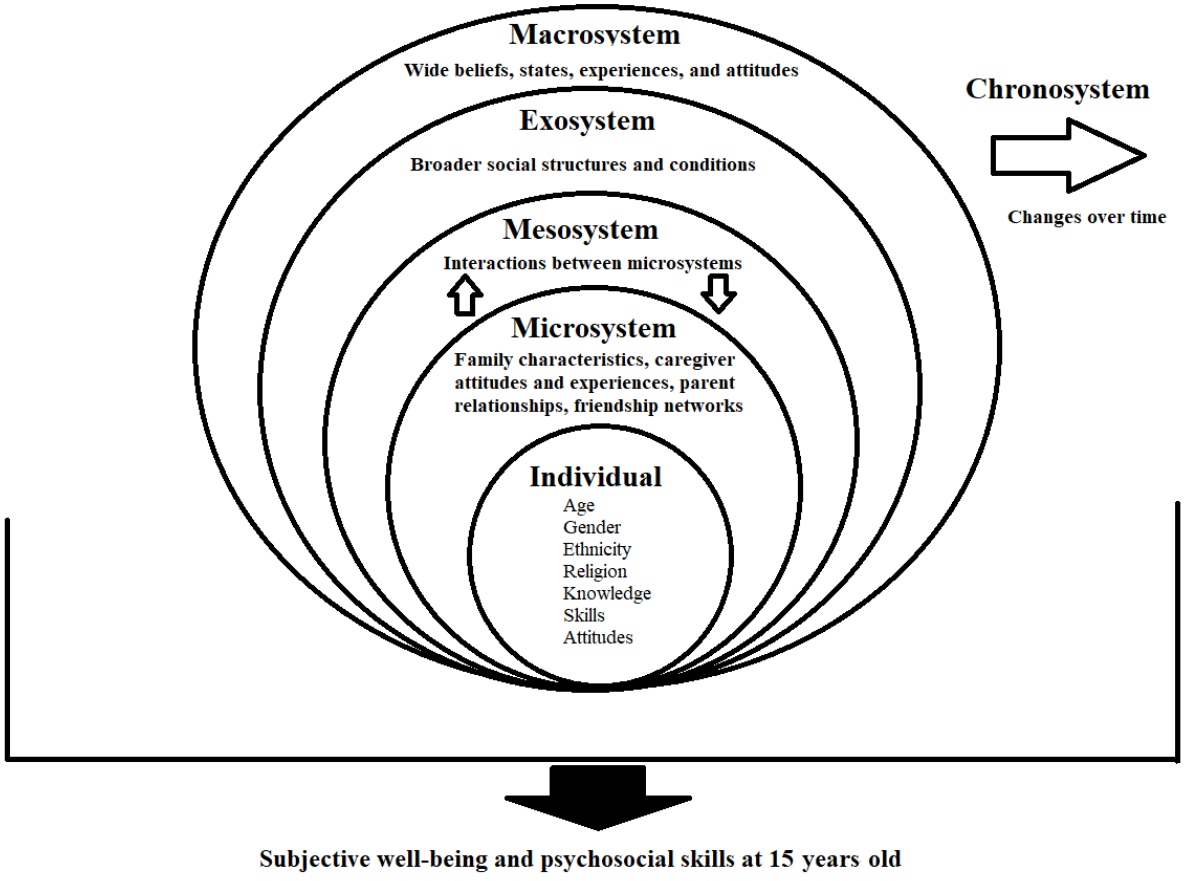

Figure 1. A social-ecological analytical framework: subjective well-being and psychosocial skills at 15 years old (Bronfenbrenner, 1979, 1986; Mittelmark, 2012).

2.2 An Ecological Systems Model for Adolescent Outcomes

The following descriptions are based primarily on Bronfenbrenner's 1977 and 1979 works, supplemented with examples from additional sources. The levels were adapted slightly to accommodate variables available in the Young Lives dataset and to highlight environmental factors most relevant to the study sample. The social-ecological levels of interest, as they were applied in this research project, are outlined below:

2.2.1 Levels of the ESM

The individual (intrapersonal)

At the core of the ecological model is an individual child with their own unique biological and emotional profile. While Bronfenbrenner did not pay considerable attention to this level, he suggested that each child's development is impacted by their personal characteristics. These individual-level influences include age, gender and ethnicity, and may also encompass values, knowledge and capabilities (Smokowski et al., 2014).

The microsystem (interpersonal)

The microsystem is the immediate physical and social environment surrounding a developing child and involves the most powerful influences (Kilanowski, 2017). Bronfenbrenner (1977) attested that identity development takes root within the social context. The groups of people one encounters all have varying levels of influence. For example, one's household, family and friends. Microsystem factors might include family and caregiver characteristics, parent relations, and peer networks. In this thesis, the microsystem was dialled in to concentrate on the conditions and relationships directly impacting adolescents on an ongoing, daily basis. This enabled the salient proximal processes of interest to be highlighted in this research.

The mesosystem (interrelationships)

The mesosystem describes the various interactions of the different microsystem settings in a child's life (Aarø & Flisher, 2012). It is assumed that experiences in one area may be related to experiences in another. For a young person, the mesosystem could encompass linkages among family and friends. These mesosystem interactions are beyond the scope of this thesis.

The exosystem (institutional context)

The exosystem refers to broader interactive forces which influence the nature and structure of microsystems and the way in which they affect an individual. It is an extension of the mesosystem and involves formal and informal social structures and networks. This larger

cultural context may or may not be part of the child's immediate experiences (Rosa & Tudge, 2013; Wold, 2012). The exosystem can also include major social institutions like the school system and neighbourhood, government agencies, and the mass media (Kilanowski, 2017).

By highlighting immediate interactions at the micro level, the exosystem was then positioned as a wider relational system in this research, focusing on the school as a fundamental site of socialisation. This is in line with other research which has described the exo-level as being institutional. The institutional exosystem may comprise rules, regulations and informal structures like worksites, schools and religious groups (Gregson et al., 2001).

The macrosystem (society and culture)

The macrosystem is a broad ideological construct which is fortified by way of traditions and norms. It encompasses societal, cultural and religious values and the greater experiences and attitudes shared by members of a society or group (Kilanowski, 2017; Wold, 2012). This level may also involve different social, economic and geopolitical circumstances. The experiences of individuals in a particular category, for example, socioeconomic group or geographic region, are thought to be similar. Settings and institutions are supposed to function in comparable ways (Rosa & Tudge, 2013). For example, it may be assumed that individuals in a specific wealth bracket or region have similar conditions, experiences, attitudes, and norms.

The chronosystem (life course)

The chronosystem adds time to be model and is concerned with the shifts and transitions in one's lifespan (Bronfenbrenner, 1986). Growth and progress occur in different time-sensitive periods for children and adolescents and factors in one period may impact outcomes contemporaneously and/or in the future. Further, something which is influential at one age may not be significant at another. For example, negative experiences in early childhood might inhibit the achievement of development milestones later in life, and, outcomes in adolescence may affect health outcomes in adulthood (Sawyer et al., 2012).

2.2.2 Relationships of interest

The production functions of subjective well-being, self-esteem and self-efficacy do not have singular, specific ways of being depicted. This is especially true when looking at inputs across multiple levels. Drawing on notations from the literature, for example, Dercon and Sánchez (2011), the model for the variables of interest was conceptualised as follows:

$$\theta ait = \beta 1Iit + \beta 2Pit + \beta 3Eit + \beta 4Mit + B5Cit + \epsilon$$

Here, θait is an individual 15-year-old adolescent's subjective well-being, self-esteem or self-efficacy. *I* is a vector of contemporaneous individual factors, *P* is a vector of contemporaneous micro-proximal system factors, *E* is a vector of contemporaneous exosystem factors, *M* is a vector of contemporaneous macro-level factors and *C* is a vector of chronosystem factors, all for individual *i* at time *t*. Finally, ϵ is the error term which may include genetic benefits or disadvantages an adolescent has had from birth as well as other unmeasurable factors. For example, comprehensive information about how the adolescent interacts with others at school and in their community on a day-to-day basis.

Within the current structure, the total effect of individual and social-ecological factors on subjective well-being and psychosocial skills at age 15 is each given by β1+ β2+ β3+ β4+ β5.

Fundamentally, a central theme of this research project is that subjective well-being and psychosocial skills are not merely related to one or two different factors but may have multiple demographic and sociocultural associations.

2.2.3 Placing self-esteem and self-efficacy

In some ecological models, self-esteem and self-efficacy have been used as independent variables at the individual level (Evans, Smokowski, & Cotter, 2014; Logie, Alaggia, & Rwigema, 2014), wherein this thesis, they were outcomes of interest. Psychosocial skills can be conceptualised as both personal traits and states of being (Trzesniewski, Donnellan, & Robins, 2003). Studies which use self-esteem for example, as an individual-level trait are often interested in the impact this competence has on other capabilities or behaviours (Baumeister et al., 2003; Kautz et al., 2014; Yorke & Portela, 2018).

For this thesis, it was acknowledged that while individual, psychological skills evolve and change in a way that some other demographic characteristics do not. Self-esteem and self-efficacy are malleable social-ecological constructs. As Trzesniewski et al. (2003) suggested, "to characterize self-esteem as entirely trait-like may obscure the fact that changes can and do occur in response to various experiences and interventions" (p. 217). The term psychosocial itself captures the interactional nature of these constructs between the individual and the environment (Yorke & Portela, 2018). This study was not the first to use self-esteem and self-efficacy as dependent variables (Dercon & Krishnan, 2009; Dercon & Singh, 2013; Himaz, 2018; Sánchez, 2017; B. Singh & Udainiya, 2009; Smokowski et al., 2014).

3. Literature Review

To find literature for this review, exploratory searches were made online. Primarily, Google Scholar, Oria search portal, and the search tool on the Young Lives website were utilised. First, a list of keywords was drafted. This included central terms and phrases such as 'adolescence,' 'health,' 'well-being,' 'psychosocial skills,' 'self-esteem,' 'self-efficacy,' 'India,' 'positive youth development,' and 'social-ecological.' These terms were then added into the search platforms in various groupings. The online resources were sorted, studied, annotated and managed using the reference manager Mendeley. Care was taken to examine the useful sources' core references and if relevant, these were also explored and evaluated.

3.1 Correlates of Subjective Well-being and Psychosocial Skills

While the literature examining the subjective well-being and psychosocial skills of adolescents in developing countries are limited, there is a growing body of evidence regarding the correlates of such health-related outcomes generally. An ecological approach can help to highlight various personal, interpersonal and macro level factors (Samdal & Wold, 2012). Individual traits, relationships, home and community characteristics, and wider environmental aspects may all be significant (Currie et al., 2012; Shavelson, Hubner, & Stanton, 1976).

3.2 The Individual

3.2.1 Gender

Compared to male adolescents, female adolescents tend to have poorer psychosocial health overall. This difference is most pronounced between the ages of 15 and 17 (Räty, Larsson, Söderfeldt, & Wilde Larsson, 2005; Žukauskienė, 2014). This was exemplified by Moreno et al. (2009) who studied psychological discomfort in adolescence. Using survey data from over 200,000 adolescents across 36 countries, they concluded that young males and females have different experiences of adolescence. They found consistent differences showing that girls tend to express more psychological complaints than boys (Moreno et al., 2009).

However, the female gender is not always associated with worse outcomes. Dercon and Singh (2013) considered gender-based inequalities and biases experienced by children aged 8, 12 and 15 years old. They identified diversity in gender bias across the four Young Lives countries. Lower self-efficacy for girls was observed in India and Ethiopia, but the opposite was seen in Vietnam (Dercon & Singh, 2013). Himaz (2018) used the first rounds of Young Lives' Older Cohort data to look at stunting later in childhood and psychosocial outcomes in

young adulthood in India. She found that being male had a positive effect on self-efficacy and agency, but a negative impact on some other measures of psychosocial well-being compared to being female. Overall though, male gender tends to be associated with better well-being, psychological functioning and psychosocial skills among adolescents from India (A. Khan, 2013; B. Singh & Udainiya, 2009), to Greece (Giannakopoulos et al., 2009), to Great Britain (Oskrochi, Bani-Mustafa, & Oskrochi, 2018), to the United States (Smokowski et al., 2014).

Health Behaviour in School-aged Children (HBSC) findings have demonstrated that gender inequalities in mental health tend to emerge during adolescence (Inchley et al., 2016). In many countries, adolescence is a period when the world simultaneously expands for boys and contracts for girls. Young men are granted privileges and opportunities reserved for men, and girls are subjected to new restrictions imposed on women (Sandhu, Singh, Tung, & Kundra, 2012; B. Singh & Udainiya, 2009). In India, "…despite growth and development, women are still not granted an equal status at the micro level of the household or at the macro level of community and society at large" (Bhat & Sharma, 2006, p. 352). Cultural and social forces prioritise men and marginalise women, and girls may experience internalised discrimination or oppression as a result. These feelings can negatively impact their subjective well-being and psychosocial skills (R. Singh & Mukherjee, 2018; Sumanjeet, 2017). While Himaz (2018) found male gender to support self-efficacy, it remains to be seen whether adolescent males also score better than adolescent females on subjective well-being and self-esteem in India.

3.2.2 Ethnicity

Ethnicity may play a role in shaping adolescent health, including aspects of well-being, and psychosocial prowess (Martinez & Dukes, 1997; Smokowski et al., 2014; Trzesniewski et al., 2003; Twenge & Nolen-Hoeksema, 2002). However, most research which has looked at the relationship between ethnicity and adolescent outcomes has been done in Western contexts, particularly in North America. Such studies often use 'race' interchangeably with 'ethnicity.'[6] Roberts and Sobhan (1992) compared symptoms of depression among adolescents from different ethnic groups. They found that Mexican American adolescents had higher rates of depression than adolescents from other ethnic groups. In their ecological model, Smokowski et al. (2014) found that African American and Native American students had higher self-esteem than their Caucasian classmates. Further, students who reported high levels of ethnic

[6] While race has traditionally been a grouping variable related to physical characteristics, ethnicity is associated with shared socio-cultural factors (Johnson, 2000). Ethnicity is a social construct and is thus the term which has been favoured in this thesis.

identity were more likely to report higher self-esteem compared to students who reported low levels. Perhaps, ethnic group affinity may be significant for other health-related outcomes.

While variation in adolescent psychosocial skill levels has been seen among ethnic groups in Western countries, the relationship between ethnicity and adolescent outcomes in India warrants further research. India's caste system has been an important driver of inequality for generations (Borooah, 2005). Across the country, adults and children from lower casts are socially, educationally and economically disadvantaged (Vennam & Komanduri, 2009). For example, Young Lives third round showed that in India's Older Cohort, there was an increase in the number of Scheduled Caste children reporting a bad life, compared to the overall trend (Pells, 2010). Scheduled Castes and Scheduled Tribes are Backwards Classes who occupy the bottommost rungs of the caste system (Sedwal & Kamat, 2008).[7] These marginalised ethnic groups have historically faced deprivation, oppression, and extreme social isolation due to their perceived low status (Vennam & Komanduri, 2009). Despite this, Himaz (2018) did not find the adolescents' ethnic groups to have a systematically significant impact on the psychosocial outcomes she studied. It is reasonable to expect that Backwards Class adolescents have lower subjective well-being and psychosocial skills than their peers in Other Castes (Pells, 2010). More research is needed to understand the how ethnicity might be related to the experiences and skills of India's young people.

3.2.3 Cognitive skills

Cognitive capabilities may support psychosocial skills and vice versa. When studying skill formation in the first 11 years of life, Coneus, Laucht, and Reuß (2012) found cognitive skills to foster mental and emotional skills, independent of gender. Further, in their review of the impact of self-esteem on school performance, Baumeister et al. (2003) suggested that the correlations found between self-esteem and school performance do not necessarily indicate that high self-esteem leads to cognitive success. Instead, high self-esteem is partly the result of good school performance, they said. Sánchez (2017) utilised the first three round of Young Lives data to explore the structural relationship between early nutrition, cognitive skills and non-cognitive skills in four developing countries. He found evidence of self-productivity for

[7] These ethnic groups are established categories in Indian society and are used widely in Young Lives research. The term 'Backwards' is used officially to describe marginalised groups. Scheduled Castes face social, educational and economic deprivation, while Scheduled Tribes are deemed disadvantaged based on geographical isolation. Other Backwards Classes are oppressed or segregated groups which do not fall into the Scheduled Castes or Scheduled Tribes lists (Sedwal & Kamat, 2008; Vennam & Komanduri, 2009).

cognitive skills, and of cross-productivity from cognitive skills to non-cognitive skills. This supports the idea that higher academic outcomes may be positively associated with self-esteem, for example (Yorke & Portela, 2018).

The development of cognitive skills and psychosocial skills have also been found to be mutually reinforcing. This means that the growth of skills in one area might facilitate the improvement of skills in another (Yorke & Portela, 2018). Self-esteem, for example, may enhance academic achievement, which in turn increases self-esteem (Marsh & O'Mara, 2008). Because of this connection, the attainment or advancement of psychosocial skills during adolescence could help to remediate deficits in earlier cognitive development. Their later malleability and susceptibility to external influences may be advantageous (Yorke & Portela, 2018). This line of research is beyond the scope of this thesis. There is however a place for further studies which considers the associations between adolescents' psychosocial skills and other positive health-related outcomes. Particularly, there is a lack of research which considers the significance of these relationships alongside other associations.

3.3 The Microsystem

3.3.1 Caregiver characteristics: well-being, psychosocial skills, and education

Parents are the main socialising agents of young people, and their behaviours, skills and experiences can fundamentally affect their offspring (Aufseeser, Jekielek, & Brown, 2006; UNHCR, 2001; Wold, 2012). It has been found that caregivers who have higher perceived well-being and psychosocial skills themselves are more likely to have adolescents with similar qualities and capacities (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Giannakopoulos et al., 2009; Thomas & Joseph, 2013; Žukauskienė, 2014). Conversely, caregivers' mental health problems and subsequent negative parenting behaviours may unfavourably affect their children's mental health and well-being (Ayala-Nunes et al., 2018; UNHCR, 2001). Giannakopoulos et al. (2009) considered how their parents' subjective physical and mental health was related to the well-being and functioning of 1,194 Greek adolescents, using a nation-wide questionnaire. They found that parental subjective mental health status was significantly, positively correlated with adolescent physical and psychological well-being. Ayala-Nunes et al. (2017), who studied the social-emotional profiles of welfare referred children in Spain and Portugal, found that parents who reported higher self-efficacy and lower anxiety also had children with higher personal self-efficacy. While these patterns have emerged in the literature, there appears to be little research on how

caregivers' subjective well-being and psychosocial skills may be related to these outcomes among Indian adolescents. The family system is highly important in India and most young people have a strong attachment to their parents (Albert, Trommsdorff, & Mishra, 2009; Isaac, Annie, & Prashanth, 2014). Thus, this potential association warrants attention.

Additionally, the education level and corresponding cognitive skills of an adolescent's caregiver may also be important. Parental education level can be related to some of the most marked inequalities among Young Lives children,(Woodhead, Dornan, & Murray, 2014). In addition, Rajachar and Gupta (2017) found parental literacy to contribute to the psychosocial status of adolescent girls in rural India. Further, Bista et al. (2016), who studied psychosocial problems among Nepalese adolescents, found that children of literate parents were less likely to develop such issues than their peers with illiterate parents. They cited parental education as a supportive factor. Himaz (2018) also found father's and mother's education to be significant for agency and self-efficacy, using data from Young Lives India's Older Cohort. Dercon and Krishnan (2009) also used data from the Young Lives Older Cohort to study the psychosocial skills of 12-year-olds. They found a positive association between the caregivers' education and school participation levels and their children's psychosocial capabilities.

3.3.2 Parent relations

Parent-child relations encompass the extent to which children feel understood, liked, heard and appreciated by their parents (Yorke & Portela, 2018). Adolescence can be a challenging time and research shows that positive parent-child relationships are more important in this period than at any other stage of life (Aufseeser et al., 2006; Thomas & Joseph, 2013). Parent communication and support, especially between an adolescent and their primary caregiver, are significant for both well-being and self-esteem (Franco & Levitt, 1998). Adolescents with strong and stable parental relations are more likely to report higher well-being and are less likely to experience mood disorders like depression (Hair et al., 2005).

Parent-child communication can help young people to deal with stressful situations, by establishing the family unit as a safe and protective place (Currie et al., 2012; Inchley et al., 2016). Inchley et al. (2016), using HBSC data, identified that adolescents who felt that they communicated well with their parents, were also more likely to report higher self-rated health and life satisfaction. This is consistent with Moreno et al. (2009). They found a significant relationship between good parental communication and fewer adolescent psychological complaints in their multi-country study. Further, when looking at the impact of family and

gender on the self-efficacy and well-being of Indian adolescent, B. Singh and Udainiya (2009) found more open communication with parents to be associated with greater self-efficacy.

Social support promotes well-being and enhances coping (Glozah, 2015). Assistance and encouragement offered by family members, especially parents, is related to better psychosocial outcomes throughout the literature (Aufseeser et al., 2006; Franco & Levitt, 1998). Smokowski et al. (2014) identified that students who reported high levels of parent support were significantly more likely to report high self-esteem and less depressive symptoms. Family support is particularly important in India which is classified as a collectivist society, with strong social ties (Albert et al., 2009; Isaac et al., 2014). Thus, a better understanding of how parent relations might be associated with subjective well-being, self-esteem and self-efficacy among Indian adolescents is needed. Family-based interventions could be valuable for the promotion of such capabilities (Thomas & Joseph, 2013).

3.3.3 Peer relations

As adolescents mature, they spend more time outside of the family home, and their social networks may also be related to their well-being and psychosocial skills (Pearson & Child, 2007; Trzesniewski et al., 2003; Žukauskienė, 2014). There is substantial evidence that social connectedness and belonging is an important resource for positive mental health outcomes in adolescence (Calmeiro, Camacho, & de Matos, 2018). Research shows that adolescents who engage in positive relationships with peers and have high perceived peer support, also have better well-being (Inchley et al., 2016), more positive emotions and self-belief (Rubin, Bukowski, & Parker, 2007), and higher self-esteem (Currie et al., 2012). Conversely, bullying and peer rejection have been associated with lower mental health and well-being (Calmeiro et al., 2018; Rubin et al., 2007; Žukauskienė, 2014). Smokowski et al. (2014) found that the probability of reporting high self-esteem was significantly greater for rural American students who reported high levels of friend support, compared to those who reported low levels. Further, students who reported high levels of negative peer relations reported more depressive symptoms and lower self-esteem (Smokowski et al., 2014). This is in line with Franco and Levitt (1998) who found friendship quality to be correlated with self-esteem.

Khanna and Singh (2015) conducted a qualitative study of the perceived factors affecting the well-being of 900 Indian students aged 10-15 years old. The influence of peers emerged as an important factor in both enhancing and threatening well-being. For example, friends and interactions with friends were reported to be some of the best things about attending school,

while problems with peers were a common cause of concern. The authors noted that despite the central position the family occupies for Indian adolescents, emerging evidence about the growing importance of peer relations, especially in urban areas, deserves attention (Khanna & Singh, 2015). Verma and Saraswathi (2002) also explained that while the role of peers has been secondary to that of the family over time, there is evidence of a distinct peer culture among Indian youth, particularly in the higher social classes. While peer influence has been overshadowed by that of the family, it may be increasing. Khanna and Singh referred to Schwarz et al. (2012) whose cross-cultural study of Western and Asian nations, including India, revealed that adolescents' life satisfaction across cultures is positively related to peer acceptance. Peer networks seem to be becoming more significant for Indian adolescents, but as Khanna and Singh (2015) suggested, greater research is needed to understand how peer relations may be associated with the well-being and psychosocial skills of Indian adolescents.

In addition, insufficient research has compared the significance of peer relations and parental relations for positive youth outcomes in India. Pearson and Child (2007) studied the parental and peer attachment styles of young adults from the United States, Puerto Rico and India. They found that participants from India showed more attachment to their parents and less to their peers, the opposite of those from the United States. They attributed this to India's hierarchical social structure and collectivist nature, compared to the United States which is more individualistic. Schwarz et al. (2012) also referred to India's higher culture-level family values which may be related to the lower importance of peer acceptance for adolescents' life satisfaction, compared to parent-adolescent relationships. Verma and Saraswathi (2002) concluded that peers are less important for Indian adolescents compared to family. Yet, time has passed since many of these studies were conducted and as peer culture increases in India, this pattern may change. The relevance of both families and friends as socialising agents is undisputed in the literature and the two relationship types have been related to psychosocial skills and well-being (Moreno et al., 2009). However, the comparative roles of parents and peers, especially in the adolescent-dominated Indian context, warrants greater attention

3.4 The Exosystem

3.4.1 School enrolment and environment

Strong socialisation takes place within one's wider locale, and feeling valued and supported by one's community is a powerful asset for positive adolescent outcomes (Thomas & Joseph, 2013). For adolescents, the community in which they engage the most is usually their school

(Samdal & Torsheim, 2012). Several studies have shown that experiences in school can have a fundamental effect on young people's overall development and well-being (Currie et al., 2012; Samdal & Torsheim, 2012; Sarkova et al., 2014). School connectedness may be an important asset for adolescents (Bista et al., 2016; Sawyer et al., 2012). According to Calmeiro, Camacho and de Matos (2018) "…school connectedness represents the extent to which students feel accepted, respected, included and supported in school" (p. 2). They found that school connectedness was the strongest predictor of life satisfaction among their sample of Portuguese adolescents. Also, the HBSC study has shown that school experiences may be associated with self-esteem and self-perception. Students who believe their schools to be supportive tend to have better health outcomes (Currie et al., 2012).

However, schools may not always be protective, or even accessible. While there have recently been impressive increases in access to education in India, adolescents from disadvantaged backgrounds are still confronted with obstacles to stay in school. This limits their social and academic potential and progress (Ford, 2018). Young Lives data demonstrate that issues like inadequate school infrastructure and teaching, inaccessibility, inflexibility, and violence all present barriers which disproportionately affect poor children (Ford, 2018). Schooling may be a source of strain and distress for some adolescents, and as well as thwarting their learning and development, may negatively impact their mental health and well-being (Samdal & Torsheim, 2012). Whether school enrolment is a factor which is related to higher subjective well-being and psychosocial skills among Indian youth, warrants further research.

3.5 The Macrosystem

3.5.1 Socioeconomic status

For adolescents, their household's economic status is a macro-level factor, related to wider social and environmental factors outside of their control. Most households within a certain wealth bracket function in similar ways and have comparable daily realities, norms and experiences (Briones, 2017). Overall, there is a general social gradient where higher income levels and socioeconomic status coincide with higher levels of well-being (Dolan et al., 2008). Household socioeconomic status has been found to be a reliable predictor of mental health problems in adolescence (Frasquilho, de Matos, Marques, Gaspar, & Caldas-de-Almeida, 2017; Huppert, 2009; IOM & NRC, 2011; A. Khan, 2013).

Growing up in an economically disadvantaged situation can compromise the ability of young people to achieve high well-being as poverty threatens their basic needs and exacerbates

barriers to achieving a good life (A. Khan, 2013). In their 2009 study, Dercon and Krishnan identified an association between material poverty and psychosocial competencies among a sample of 12-year-olds from four countries. Himaz (2018) also found a relationship between household wealth and Indian adolescents' psychosocial skills. In India, significant differentials in child health exist by wealth status and poor households and communities are disproportionately disadvantaged (Galab, Reddy, Singh, & Mukherjee, 2017; Pathak & Singh, 2011). Given the high prevalence of child poverty in India, the relationship between socioeconomic status and health-related outcomes should be considered further.

Furthermore, the perception of wealth might also be important. In their 2018 work, Oskrochi, Bani-Mustafa and Oskrochi found an association between perceived financial stability and psychological standing among household heads in the United Kingdom. Measures of actual financial status were not significant. There is potential for research which includes both objective socioeconomic status, and subjective wealth in the same model. This would provide an indication of the different relationships between actual and perceived wealth and adolescent outcomes, including subjective well-being.

3.5.2 Geographic variation: area and state of residence

Of India's 243 million adolescents, almost 72% live in rural areas (Ramadass, Gupta, & Nongkynrih, 2017). Generally, deprivation is more concentrated in rural, compared to urban areas (Lyytikäinen, Jones, Huttly, & Abramsky, 2006). Smokowski et al. (2014) suggested that rural residents are exposed to many stressors absent from urban locations, including resource limitations, geographic isolation and restricted social networks. These may be related to the high prevalence of poor physical and mental health outcomes in many rural regions (Smith, Ruel, & Ndiaye, 2005; Smokowski et al., 2014). Smith et al. (2005) looked at key socioeconomic determinants to understand why child malnutrition is lower in urban areas internationally. While they did not find any fundamental urban-rural differences in the determinants themselves, variance in their levels was identified. More favourable conditions contributed to lower urban malnutrition rates. For example, urban areas had higher rates of women's education, better sanitation facilities, and more water availability Similar such factors may also be related to adolescents' subjective well-being and psychosocial skills.

However, while attention is usually focused on the risks of rural areas, there are both benefits and drawbacks to rural and urban living respectively, and urban areas are not always healthier environments (Nolan, 2016; Ramadass et al., 2017). For example, while adolescents in urban

neighbourhoods may experience less poverty, higher quality education and better access to health services, they might also be at greater risk of stress, disease transmission and pollution, (Nolan, 2016; Ramadass et al., 2017). As Dolan et al. (2008) indicated, at least in prosperous counties like Australia and Sweden, there is some evidence that living in large cities negatively affects life satisfaction, while rural dwelling has a positive effect. How the urban-rural divide may be associated with the life satisfaction and psychosocial skills of Indian adolescents does not appear to have been considered.

In addition, India's states and regions have different environments, infrastructure and historical realities (National Portal of India, n.d.). Disparities in living standards between states remain large (OECD, 2018). While they were once united, and have similar poverty levels overall, there are political and social differences between Andhra Pradesh and Telangana (Aurino & Morrow, 2015). The division has not been welcomed by all and as Srikanth (2013) wrote, Telangana's newly constructed regional identity has been built in part on prejudice and false hopes. Some of Telangana's districts are underdeveloped compared to parts of Andhra Pradesh, especially Coastal Andhra (Aurino & Morrow, 2018; Srikanth, 2013). Interestingly, little research using data from Young Lives India has considered the significance of living in one state, compared to the other. One example is Himaz's study from 2018. She found that coming from Coastal Andhra and Rayalaseema in Andhra Pradesh seemed to positively impact most health-related outcomes, compared to living in Telangana. The Younger Cohort was born before the division but have reached adolescence in two separate states. It would be interesting to see whether there is any variation in the subjective well-being and psychosocial skills of adolescents growing up in these different contexts.

3.6 The Chronosystem

3.6.1 Early childhood nutrition

When a life-course perspective is adopted, experiences in early childhood may be related to outcomes later in life (Sawyer et al., 2012). Early nutrition status, for example, might affect children across the over time. Stunting, the impaired growth and development that children experience from poor nutrition, is a significant global issue, with 23% of all children under 5 years old being stunted in 2016 (Benny, 2018). Compelling evidence regarding the connection between early stunting and non-cognitive skills first emerged from a cohort study in Jamaica. It found that children who were stunted in the first two years of life reported lower psychological functioning at age 11, compared to those who were not stunted (Chang,

Walker, Grantham-McGregor, & Powell, 2002). Similar evidence was also observed at age 17 These differences included lower-self-esteem, depressive symptoms, anti-social behaviour and more anxiety (Walker, Chang, Powell, Simonoff, & Grantham-McGregor, 2007).

Dercon and Sánchez (2013) then analysed the relationship between height in mid-childhood and psychosocial competencies in late-childhood, using data from Young Lives' Older Cohort. They found an underlying mechanism linking early nutritional investments and psychosocial skills. Further, Sánchez (2017) studied the relationship between early undernutrition and cognitive and non-cognitive skills in childhood, using data from Young Lives first three rounds. His results also demonstrated the importance of early nutritional status for skill formation. Yes, the effects Sánchez observed on non-cognitive skills were smaller than on cognitive skills. This indicated that non-cognitive skills may be less sensitive to changes in early nutrition. Sánchez (2017) suggested that the effect might also be indirect, mediated by cognitive skills. Furthermore, the literature suggests that sensitive periods for non-cognitive skills might occur at later ages than those for cognitive skills (Borghans, Duckworth, Heckman, & Weel, 2008; Cunha & Heckman, 2008). Following this premise, it is possible that non-cognitive skills may be more malleable in adolescence, than in mid-childhood. Little research has been done into the longer-term impacts of early malnutrition, and whether its relationship with psychosocial traits persists into adolescence, when these indicators may be less volatile (Dercon & Singh, 2013). Himaz (2018) did not find support for the hypothesis that early input inadequacies and health deficiencies, have long term negative implications for psychosocial outcomes in young adulthood. So, further studies could be done to see whether there is a relationship to support these results, or not.

3.7 The Problem and Grounds for Further Research

A review of the literature showed that there are numerous factors from the intimate to the expansive which may be associated with the subjective well-being and psychosocial skills of adolescents. However, while there is increasing interest in the adolescent period and the benefits incurred from high subjective well-being and psychological functioning, the research is fragmented. Much of the literature considering correlates of positive adolescent health-related outcomes is dominated by research on isolated variables. Most studies also address a mere handful of potential assets. Ecological theory emphasises the necessity of viewing human developmental outcomes across multiple environments (Bronfenbrenner, 1979) and more studies focusing on patterns and clusters of variables are needed (Benson et al., 2007).

Furthermore, much adolescent development research is concentrated in economically prosperous countries, primarily in the Western world. Considering the immense potential of India's youth, there is a need to better understand the different factors which are related to the subjective well-being and psychosocial skills of Indian adolescents. Research should consider determinants which may be significant for Indian adolescents, across multiple levels, including individual, social, community-level and macro-level factors.

In India, adolescent health research and programming are inadequate (Khanna & Singh, 2015; Srivastava, 2016). Gender bias is high in India, but the relationship between gender and adolescent subjective well-being and psychosocial skills could be given more attention. Research also suggests that the characteristics of adolescents' caregivers might be associated with their health-related outcomes. Despite this, the role of caregivers' psychosocial competencies, for example, has not been widely considered in adolescent development research in India. Furthermore, the family is central to life in India, but youth culture seems to be growing. The association between peer relations and positive adolescent outcomes warrants research (Khanna & Singh, 2015). There is also a cause to compare the significance of parent relations and peer relations for Indian adolescents. As the access to education has increased in India, school enrolment may also be an important correlate, and macro factors including geographic location also deserve greater consideration. State of residence has not been included in much research using data from Young Lives India, and there is potential to see how the experiences of adolescents in Andhra Pradesh and Telangana may differ. Also, the relationship between early childhood nutrition and subjective well-being, and psychosocial skills in adolescence could be explored further.

Young people are the future. Practitioners may capitalise on the immense potential of adolescents, during a pivotal period of their lives, to mitigate the worst effects of poverty, broaden available opportunities and support individuals and communities to reach their full potential. Effective health promotion is contingent on approaching and exploring the settings in which people live, and untangling the processes of social interaction which weave through these spheres (Mittelmark et al., 2012). Understanding the factors which are associated with subjective well-being, self-esteem and self-efficacy among Indian adolescents could play an essential role in informing further research, and the establishment of fruitful health promotion and youth development programmes. These valuable insights may offer impetus for investment and a basis for positive progress.

4. Research Questions

The current study had one central objective: to understand correlates of subjective well-being, self-esteem and self-efficacy among Indian adolescents, in order to inform the development of effective health promotion interventions. Based on the mixed results of existing research, and unanswered questions about possible correlates of well-being and psychosocial skills in developing countries, this study examined personal attributes, relational factors and other contextual characteristics potentially associated with positive adolescent outcomes in India.

Drawing on Bronfenbrenner's ecological theory (1979, 1986), this thesis sought to uncover what individual traits and microsystem factors, as well as which exo-, macro- and chronosystem characteristics were associated with subjective well-being, self-esteem and self-efficacy among 15-year-old adolescents in India. Considering the particular importance of the microsystem for adolescent outcomes, an emphasis was placed on this level (Smokowski et al., 2014). By illuminating factors associated with positive health-related outcomes among Indian adolescents, this thesis may provide valuable information that health promoters and other practitioners can use to improve their programmes and services.

The following specific research questions were asked:

1. What microsystem factors out of caregiver characteristics (subjective well-being, pride, agency and education level), parent relations and peer relations, are associated with the subjective well-being, self-esteem and self-efficacy of 15-year-old Indian adolescents?
    a. Are parent relations or peer relations more important for subjective well-being, self-esteem and self-efficacy among 15-year-old Indian adolescents?

2. What other factors at the individual (gender, ethnic group, and cognitive skills), exosystem (school enrolment), macrosystem (socioeconomic status, area of residence, and state of residence) and chronosystem levels (height-for-age at 5 years old) help to explain the variation in subjective well-being, self-esteem and self-efficacy among 15-year-old Indian adolescents?

5. Data and Methods

5.1 Epistemological Foundation

A post-positivist perspective was taken. Post-positivism balances aspects of positivist and interpretivist approaches (Panhwar, Ansari, & Shah, 2017). According to Ryan (2006), post-positivist principles focus on meaning and new knowledge creation. These concepts may be used to support causes which aspire to improve the world. The post-positivist epistemology is semi-objective and the researcher is regarded as an instrument of data collection and analysis, used to discover an approximation of reality (Guba & Lincoln, 1994). Post-positive research is broad, and theory and practice are integrated. Motivations are usually explicit, and the connection between people is acknowledged (Ryan, 2006).

In this thesis, the researcher prioritised learning, and generating knowledge, over testing theory. This study was more about problem-setting, coming up with meaningful questions and possible suggestions, than problem-solving (Ryan, 2006). While the researcher endeavoured to reflect on their own values throughout the research process, the adoption of prescribed procedures also assisted in preventing beliefs and biases from influencing this study's outcomes. In line with the insights offered by Ryan (2006), a quantitative approach helped to provide a broad familiarity with the situation of adolescents in Andhra Pradesh and Telangana and examine patterns across cases. Further, as Panhwar et al. (2017) suggested, a study of this kind may provide a basis for in-depth qualitative research.

5.2 Young Lives

Young Lives collected data on approximately 12,000 children from Ethiopia, India, Peru and Vietnam between 2002 and 2016. They followed an Older Cohort born in 1994/5 and a Younger Cohort born in 2001/2 for 15 years (Barnett et al., 2013). The project has been coordinated by a group based at the University of Oxford's Department of International Development (ODID), but there have been local teams situated in each of the four study countries.

5.2.1 Research design

Young Lives is the first multi-disciplinary longitudinal study of childhood poverty to be carried out in more than one developing country (Barnett et al., 2013). The four countries were selected to reflect a range of cultural, economic, geographical, political and social contexts, as well as common issues faced by developing nations (Morrow, 2017). Young

Lives sought to understand the drivers and impacts of child poverty in low- and middle-income countries, in order to design better policies and services (Morrow, 2015). Over the years, the children and their primary caregiver[8] were questioned on a range of topics to measure "…children's experiences of poverty and its outcomes across many domains of well-being and development, including the physical, psycho-social, and cognitive" (Morrow, 2017). See Figure 2 for a graphic showing Young Lives' rounds, cohorts and methods.

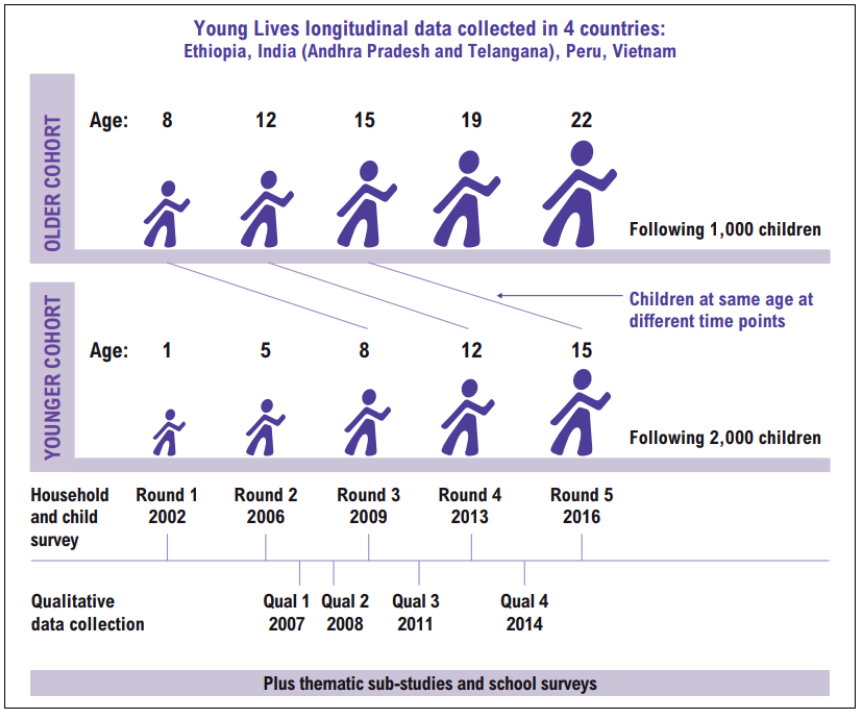

Figure 2. Young Lives longitudinal and cohort study (Young Lives, 2017).

5.2.2 Collection methods and datasets

Primarily, data have been collected through surveys, complemented by some qualitative research. The main household and child survey was conducted from Round 1 (2002), and school surveys with some of the children began in 2010 (Morrow, 2017). Young Lives' datasets from the household, child, and school surveys are publicly archived and can be downloaded from the UK Data Archive. Additionally, Young Lives developed a qualitative longitudinal research stream. They followed a subset of 200 children over a seven-year period. Due to confidentially concerns, these data are not publicly available (Morrow, 2017).

[8] Throughout this thesis, 'caregiver' is the Young Lives child's primary caregiver who answered the household survey (Galab et al., 2014). In 2002, when the first round of data was collected, 99.4% of the children's primary caregivers were their biological mothers. The same children and caregivers were questioned each round.

5.2.2.1 The survey

Young Lives' core survey consisted of three main elements; a child questionnaire, a household questionnaire, and a community questionnaire (Young Lives, 2017). The household data is similar to other cross-sectional datasets such as the World Bank's Living Standards Measurement Study. It covers a range of topics, including household composition and living conditions and the caregiver's perceptions, attitudes, and aspirations (Morrow, 2017). Time-use data and height and weight information for all family members have also been collected. In the child surveys, information was gathered about the children's daily lives, as well as their perspectives, experiences and aspirations (Dercon & Krishnan, 2009). Their cognitive skills were also tested. The community data provides information about the historical, economic, social and environmental situations of each locale (Morrow, 2017).

5.2.3 Sampling and participants

In 2002, approximately 3,000 children were sampled in each country, using a multi-stage sampling procedure (Petrou & Kupek, 2010). India's Younger Cohort consisted of 2,011 children; 1,081 males (53.8%) and 930 females (46.2%) (Young Lives, 2017). 1,000 8-year-old children were selected as an Older Cohort for comparison (Sánchez, 2017). The children were selected from 20 sentential sites, specifically defined in each country. The use of sentential sites is a form of semi-purposive sampling, often seen in health surveillance studies (Barnett et al., 2013). Each site or 'cluster' is assumed to represent a certain type of setting and illustrate the trends and experiences of its populace (Dercon & Krishnan, 2009).

The sites were selected by local experts to represent a range of regions, policy contexts and living conditions, with oversampling of poor areas.[9] Within each cluster, children were randomly selected. Although poor families were oversampled, a range of children was sampled, not only the poorest (Petrou & Kupek, 2010). Young Lives India's study sites are spread across 6 districts of Andhra Pradesh and Telangana (Young Lives, 2017). See Appendix A for information on, and a map showing, the Young Lives study sites in India.

As a longitudinal study, Young Lives was susceptible to attrition bias (Outes-Leon & Dercon, 2008). Young Lives' attrition rate is modest compared to similar studies. In India, the rate is particularly low: 3.7% for the Younger Cohort (Young Lives, 2017).[10] Furthermore, Young

[9] The samples are not nationally representative and were purposively drawn-up to be pro-poor (Kumra, 2008).
[10] Attrition happened when both the child and the household/caregiver were not interviewed.

Lives has followed a thorough data cleaning process which is still ongoing. More information about these processes is available on the Young Lives website (Young Lives, 2016).

5.3 Study Approach

This thesis used secondary data from Young Lives India' child and household surveys for the Younger Cohort. Aside from child ethnicity (Round 1) and height-for-age at 5 years old (Round 2), all the data were collected or constructed in Round 5 (2016).[11] What is primarily a cross-sectional approach has been taken, in order to capture information based on data gathered at a specific time point (Bethlehem, 1999). While this design has prevented causal relationships from being assessed, it is robust and versatile and provides good control over the measurement process, as there are no long-term considerations involved (Bethlehem, 1999). A cross-sectional design is useful for pursuing correlational analysis, and it is possible to investigate multiple variables simultaneously and accurately. Furthermore, findings from cross-sectional studies are often used to inform further research (Ruane, 2016). This research design is also consistent with the researcher's knowledge and experience, attained through the Global Development Theory and Practice programme at the University of Bergen.

Also, due to the high prevalence of stunting in India (S. Khan, 2017), and evidence from the literature that early nutrition may be related to adolescent outcomes (Dercon & Singh, 2013; Sánchez, 2017), the longitudinal nature of Young Lives was exploited. The relationship between height-for-age at 5 years old, and subjective well-being and psychosocial skills at 15 years old, was explored. This can be thought of as a fixed-sample panel component, as the same participants were included in each round (Ruane, 2016).

5.3.1 Study sample

Round 5 of Young Lives' household and child data were collected between August 2016 and January 2017 when the Younger Cohort was approximately 15 years old (Young Lives, 2017). In this study, the sample size was 1,900 adolescents; 1,017 males (53.5%) and 877 females (46.2%) (missing; n = 6, 0.3%). The majority (69.9%, 1,328) lived in rural areas, with only 29.3% (557) living urbanely. 1,220 (64.9%) resided in Andhra Pradesh, and 659 (35.1%) lived in Telangana. Refer to the results chapter for a detailed univariate analysis.

[11] The variables used in this thesis came from the following data files: Round 1 child and household survey, Round 2 child and household survey, Round 5 child survey, Round 5 household survey, Round 1-5 constructed data file and Round 5 cognitive tests file (Boyden, 2018a, 2018b; Jones & Huttly, 2018; Sánchez et al., 2018).

5.4 Variables

5.4.1 Dependent variables

Psychosocial skill scales were first administered in Round 2 to the Older Cohort, and to both cohorts in Round 3.[12] The psychosocial scales included in Round 5 came from two sources: (1) scales and items included from Round 2 onwards and (2) new questionnaires which were tested for use in Round 4 and administered again in Round 5. These new questionnaires, which have "…previously validated and theoretically grounded scales that are relevant to children's lives" were used for this thesis (Yorke & Portela, 2018, p. 8).

Subjective well-being

Subjective well-being was measured through a nine-point self-anchoring scale 'Cantril's Ladder,' (the ladder of life question), which assess current life satisfaction; 1 = worst, 9 = best (Yorke & Portela, 2018). The following question was included in the Round 5 child survey:

"There are nine steps on this ladder. Suppose the ninth step, at the very top, represents the best possible life for you, and the bottom represents the worst possible life for you. Where on the ladder do you feel you personally stand at the present time?"

Self-esteem

General self-esteem was calculated using self-description questionnaire I (SDQ I).[13] Young Lives' SDQs were based on the theoretical models of self-concept in Shavelson et al. (1976), with their multidimensional structure. These scales are widely used and among the most validated self-concept measures available (Yorke & Portela, 2018).

Participants were asked to respond to eight items on a Likert scale ranging from 1 = strongly disagree to 4 = strongly agree. Total self-esteem was measured on a scale from 8 (lowest self-esteem) to 32 (highest self-esteem). A question was: "in general, I like being the way I am." See Appendix B for all scale items. Total self-esteem came from the Round 5 child survey.

Self-efficacy

The generalised self-efficacy scale (Schwarzer & Jerusalem, 1995), was created to assess a general sense of perceived self-efficacy (Yorke & Portela, 2018). The scale was developed for

[12] Psychosocial constructs cannot be directly observed and thus, directly measured. Each psychosocial variable must be defined in terms of behaviours believed to represent it. These behaviours then serve as measurable indicators of the underlying construct (Yorke & Portela, 2018).
[13] General self-esteem, parent relations, and peer relations were taken from Young Lives' self-description questionnaires; SDQ I and II (Yorke & Portela, 2018)

adolescents (12 <) and the adult population. It has been adapted to many countries (including India) and the findings from multiple studies confirm that the measure is reliable and unidimensional across cultures (Scholz, Doña, Sud, & Schwarzer, 2002).

Participants were asked to respond to 10 items on a Likert scale ranging from 1 = strongly disagree to 4 = strongly agree. Total self-efficacy was measured on a scale from 10 (lowest self-efficacy) to 40 (highest self-efficacy). An example question is: "I can usually handle whatever comes my way." See Appendix B for all scale items. Total self-efficacy came from the Round 5 child survey.

5.4.2 Independent variables

Five groups of independent variables (individual, micro-, exo-, macro, and chronosystem factors) were used in this analysis. These variables were selected and blocked based on theory (Bronfenbrenner, 1979, 1986), existing literature about significant correlates of subjective well-being, self-esteem and self-efficacy, and factors available in Young Lives' datasets. Most variables of interest were located at the micro level, including caregiver characteristics and close relationships, supplemented with individual attributes, and other more distal factors.

Individual factors

Age: Age was reported in months. The age variable came from the Round 5 child survey.

Gender: Male was the reference group, coded as 0 and female was coded as 1. The gender variable came from the Round 5 child survey.

Ethnic group: Ethnic group was coded as 1 for Scheduled Castes, 2 for Scheduled Tribes, 3 for Backwards Classes, and 4 for Other Castes. The ethnic group variable came from the Round 1 child/household survey.

PPVT Score: Cognitive skills were represented by non-standardised raw scores on the Peabody Picture Vocabulary Test (PPVT). The PPVT is a test of repetitive vocabulary, which is commonly used to measure children's cognitive abilities in developing countries (R. Singh & Mukherjee, 2016). The test includes up to 204 items. In each item, the interviewer says a stimulus word and the participant must select the picture out of four options which best represents the word (Sánchez, 2017). In India, Young Lives administered the English version of the PPVT (PPVT-III). The PPTV score variable came from the Round 5 cognitive tests file.

Microsystem factors

Caregiver's education level: Years of education completed was used as a simple proxy for the caregivers' cognitive skill levels. It was assumed that caregivers who had completed more years of education would have further cognitive skills than those who had completed fewer.

Caregiver's education level was coded 0 for no formal schooling completed (none), 1 for grades 1-5 completed (1-5 years), 2 for grades 6-10 completed (6-10 years), and 3 for 11 or more years completed (11+ years). The caregiver's education level variable came from the Round 1-5 constructed data file.

Caregiver's subjective well-being: The caregivers' subjective well-being was measured using the same 9-step ladder of life question (Cantril's Ladder) that was in the child survey. This variable came from the Round 5 household survey.

Caregiver's psychosocial skills: The caregivers' psychosocial skills were assessed using four questions measuring pride, and three questions assessing agency. Pride is related to self-esteem, and agency is used synonymously with self-efficacy (Yorke & Portela, 2018). The pride scale was based on the self-esteem scale from Rosenberg (1965), and the agency scale drew on indicators in Bandura (1993). Participants were asked to respond to each item on a Likert scale ranging from 1 = strongly disagree to 5 = strongly agree, based on their level of agreement with the various statements. Negative statements had their scaling reversed (Yorke & Portela, 2018).

Total caregiver's pride was measured on a scale from 4 (lowest pride) to 20 (highest pride). One question measuring pride was: "the job I do makes me feel proud."
Total caregiver's agency was measured on a scale from 3 (lowest agency) to 15 (highest agency). An example question is "if I try hard, I can improve my situation in life." See Appendix B for all pride and agency items. The caregiver's pride and agency variables came from the Round 5 household survey.

Parent relations: Participants with one or both living parents were asked to respond to eight items on a Likert scale ranging from 1 = strongly disagree to 4 = strongly agree. Total parent-relations was measured on a scale from 8 (lowest parent-relation) to 32 (highest parent-relations). An example of a question measuring parent relations is: "I get along well with my parents." See Appendix B for all items. The parent relations variable came from SDQ II, in the Round 5 child survey.

Peer relations: Participants were asked to eight items on a Likert scale ranging from 1 = strongly disagree to 4 = strongly agree. Total peer-relations was measured on a scale ranging from 8 (lowest peer-relation) to 32 (highest peer-relations). An example of a question measuring peer relations is: "I have lots of friends." See Appendix B for all items. The peer relations variable came from SDQ I, in the Round 5 child survey.

Exosystem factor

School enrolment: School enrolment was coded 0 if the adolescent was not enrolled in school, and 1 if they were. The enrolment variable came from the Round 5 child survey.

Macrosystem factors

Wealth Index (WI): The WI is Young Lives' primary measure of socioeconomic status, placing households on a continuous scale of wealth (Briones, 2017). It was constructed from three indices: housing quality, access to services, and ownership of consumer durables.[14] Because these indicators are assumed to be equally important, the WI is a simple average of the three elements (Briones, 2017). The result is a value between 0 and 1. A higher WI indicates a higher socioeconomic status. The WI came from the Round 5 household survey.

Subjective household wealth status: To supplement the WI variable, a second economic variable was included to reflect general attitudes about social life and prosperity. The subjective household wealth status variable came from the Round 5 child survey. The adolescents were asked which of six levels best described their household:

1 = very rich, 2 = rich, 3 = comfortable, 4 = struggle to get by, 5 = poor, 6 = destitute.

Due to the small number of respondents in the 'destitute category,' this was recoded to 5 = poor or destitute.

Area of residence: Area of residence (urban/rural) – urban was coded as 0 and rural was coded as 1. The area variable came from the Round 1-5 constructed data file.

State of residence: State of residence (Andhra Pradesh/Telangana) – Andhra Pradesh was coded as 0, and Telangana was 1. The state variable came from the Round 5 child survey.

[14] The WI was designed to include a broad range of variables because markers of wealth vary substantially across the sample.

Chronosystem factor

Height-for-age at 5 years old: Nutritional status at age 5 years old (Round 2) was estimated using an agreed-upon measure of physical development; height-for-age z-score (HAZ).[15] Height-for-age is a sturdy measurement variable for capturing early nutritional investments. A child with a HAZ score below -2 (that is 2 standard deviations below the median, healthy child) is classified as stunted. Height in early childhood has been found to be a reliable measure of feeding and nutrition up to that point (Dercon & Sánchez, 2013). The height-for-age at 5 years old variable came from the Round 2 child/household survey.

5.5 Data Management

Care was taken prior to the commencement of data analysis to inspect the dataset for errors, and to do any necessary screening and cleaning, using SPSS. First, the data were checked for figures which were impossible or out of range, and these were corrected or deleted (Pallant, 2016). All data classified as 'not known' (77), 'not applicable' (88), 'missing' (99) and 'refused to answer' (79) were recoded to 'missing.'.

All variables were screened for outliers. Outliers classified as 'extreme' by SPSS were investigated. Four impossibly high results for height-for-age at 5 years old were removed as they were associated with heights between 140 and 173 cm, well out of range for a child of 5 years of age (WHO, 2015). These heights were most likely entered incorrectly during data collection. Aside from this, all outliers were retained given that they were reasonably few, naturally occurring, within realistic ranges, and did not overly affect the outcomes.

5.5.1 Data analysis methods

IBM SPSS Statistics version 25 was used to assess the relationship between the various individual and social-ecological factors and subjective well-being, self-esteem and self-efficacy among a sample of 15-year-old Indian adolescents. Analyses were run excluding cases pairwise and to produce analyses reflective of variation present in the sample, missing data were not replaced. Sample sizes were more than sufficient, despite missing data. The variables were created as described above. The ordinary least squares estimation method was used, and statistical analyses were run in three steps:

[15] Using the most recent growth standards of the World Health Organization (WHO), height (measured in cm) was transformed into a height-for-age z-score by Young Lives. HAZ scores measure the distance between a given child and the reference/norm child for the equivalent gender and age (Sánchez, 2017).

1) Basic descriptive statistics were obtained for all variables.

2) Bivariate relationships between the independent variables and the dependent variables were explored using Pearson's product-moment correlation coefficients (continuous/scale variables), independent samples t-tests (dichotomous variables), or one-way ANOVA (categorical variables).

For the t-tests, Cohen's d was used to measure effect size (Pallant, 2016). For Cohen's d; 0.2 is a small effect, 0.5 is a medium effect and 0.8 is a large effect (Cohen, 1988). For the one-way ANOVAs, eta squared was utilised. As Pallant (2016) described, "Cohen classified .01 as a small effect, .06 as a medium effect and .14 as a large effect" (p.160).

3) Hierarchical multiple regression was used to examine the ability of the various independent variables to predict[16] levels of subjective well-being, self-esteem and self-efficacy in the adolescent sample. Precisely, which individual characteristics, and factors across the micro-, exo-, macro- and chronosystems, were associated with the dependent variables. Sets of covariates were offered in blocks, based on the ESM, to test the robustness of the relationships. Five blocks of independent variables were regressed onto subjective well-being, self-esteem and self-efficacy respectively. Each block of independent variables was chosen based on correlates reported in the literature. Each block contained the independent variables from the preceding block and also introduced additional independent variables.

The model order entry was set to move on the ESM from closest variables to the individual, to more distal layers. The individual-level variables were entered first. Subsequent blocks included microsystem factors, school enrolment at the exosystem level, macrosystem factors and finally, early nutrition status at the chronosystem level. By examining differences in adjusted R^2 statistics, hierarchical multiple regression enables the relative influence of each set of independent variables to be explored (Evans et al., 2014).

The aim of the analysis was to develop models accounting for the best available variance in subjective well-being, self-esteem and self-efficacy, given the limits of available variables (see 6.4 Hierarchical Multiple Regression for details). Thus, once all sets of variables were entered, the overall model was assessed in terms of its ability to predict the dependent variable in question (subjective well-being, self-esteem or self-efficacy). In order to produce

[16] It was acknowledged that some researchers give causal or other meaning to the terms 'predict' and 'predictor.' No causal meaning has been given to these terms in this study. Due to the correlational nature of this research, causal inferences are inappropriate.

parsimonious final models, only the factors which showed statistical significance were retained. The remaining variables were then analysed using simultaneous multiple regression. The methods used did not allow causality to be inferred, but they did provide information about correlates of subjective well-being, self-esteem and self-efficacy in the study sample.

5.5.2 Quality assurance

Thorough procedures were conducted to systematically test Young Lives' psychosocial scales. The psychosocial scales included in Round 5 had their psychometric properties assessed in 2013 before the commencement of Round 4, including reliability and validity. See Yorke and Portela (2018) for details on the scales' selection, adaption and validation.

5.5.2.1 Reliability

Yorke and Portela (2018) used inter-item correlations and Cronbach's Alpha to assess reliability, and these same measures were used in this study. A Cronbach's alpha (α) score of .70 or above indicates internal consistency (that the different scale items hang together) (Pallant, 2016). For scales with fewer than 10 items, achieving a sufficiently high Cronbach's alpha can be difficult (Pallant, 2016). This is because the alpha coefficient is a function of the inter-item correlations across items, and the number of items in the scale. In these instances, the average inter-item correlation value can be used. According to Clark and Watson (1995), this value should be between .15 and. 50. Scores in this acceptable range are indicative of unidimensionality and good internal functioning/consistency (Clark & Watson, 1995). See Table 1 for reliability information about the scales used in this study.[17]

Table 1

Cronbach's Alphas and Mean Inter-item Correlations for the Scale Variables

Scale	Items	Current Study		Yorke and Portela (2018)	
		Cronbach's α	Mean inter-item correlation	Cronbach's α	Mean inter-item correlation
Self-esteem	8	.64	.19	.75	.27
Self-efficacy	10	.74	.22	.82	.31
Caregiver's pride	4	.49	.20	.66	.32
Caregiver's agency	3	.34	.18	.41	.12
Parent relations	8	.78	.31	.82	.36
Peer relations	8	.74	.26	.82	.36

[17] The results from Yorke and Portela pertain to the Younger Cohort from India in 2013, when they were 12 years old, for all scales expect for the caregiver's pride and agency scales. These results are for the child version of the pride and agency scales, for the Older Cohort in 2013 when they were 19 years old. No recent studies testing the reliability of the caregiver's pride and agency scales were available.

Overall evaluation of reliability

Most Cronbach alpha scores were over or on an acceptable boundary close to .70, indicating good internal consistency. Despite the presence of some low Cronbach alpha scores, the inter-item correlations were within the acceptable range for each scale (Clark & Watson, 1995). One can argue that parent and peer relations are narrower constructs than self-esteem/pride and self-efficacy/agency. Thus, is not surprising that the average interitem correlations for these competencies are higher (Yorke & Portela, 2018). Overall, the inter-item correlations in the included scales were moderately low and as the scales only comprise three to 10 items; we can feel confident that these estimates represent a measure of internal consistency, which is also parsimonious (Pallant, 2016).

5.5.2.2 Validity

During the new psychosocial scale development process, the psychometric properties of the scales were evaluated through confirmatory factor analysis (CFA). Multi-group confirmatory factor analysis (MGCFA) was also performed on the scales to investigate whether they were equivalent across countries (Yorke & Portela, 2018). Overall, the scales were found to be working well in each of the four countries. Refer to Yorke and Portela (2018) for details. Because this testing was performed with both the scales and the participants used in this thesis, and because this thesis is based on data from only one Young Lives country, the decision was made not to perform any additional factor analysis.

5.5.2.3 Generalisability

The pro-poor sample can be viewed as both a weakness and a strength. The sample is not representative at the national or state level. This limits the study's generalisability (Kumra, 2008). However, the pro-poor bias also means that this thesis provides valuable information about more disadvantaged adolescents in the states of Andhra Pradesh and Telangana (Morrow, 2017). Generalisability will be addressed in more detail in the discussion chapter.

5.6 Ethical Considerations

When using a post-positivist approach, "no longer is it good enough for the researcher to see the people s/he is researching simply as research subjects from whom information is 'extracted'"(Ryan, 2006, p. 17). Observing ethical obligations is essential for all research involving people and additional precautions are needed to protect young people (Schenk & Williamson, 2005). Young Lives has taken a positive view of research ethics as enabling

high-quality research, and emphasis has been placed on respect and justice (Morrow, 2013a). This thesis used existing data from Rounds 1, 2 and 5 of Young Lives. No direct contact was made with the research participants. While secondary data analysis is widely assumed to present few ethical challenges, considerations must still be made. In this thesis, care was taken to "...be cognisant of the concerns and responsibilities of the primary team, recognising the emotional labour of the original work" (Morrow, Boddy, & Lamb, 2014, p. 17).

Formally, Young Lives has received ethical approval from several ethics boards, including the University of Oxford's Social Science Division, and committees in the four research countries (Young Lives, n.d.-b). A 'Memorandum of Understanding' for fieldworkers was produced. This offered guidelines for respectful communication with participants and was used in each round, by all teams. All researchers undertook training on research ethics, and fieldwork manuals contained ethics information (Morrow, 2013a, 2017).

Informed consent was obtained throughout the rounds from everyone involved, including the children, their caregivers and other community members. Informed consent was repeatedly sought and recorded prior to each round of fieldwork and at every activity or survey session (Young Lives, n.d.-a). Fieldworkers were taught to explain the research in child-friendly ways. In some instances, people were unwilling or unable to sign authorisation documents, and voice recordings were used. Consent had to be gained from both the children and their parents and in some situations; there were discrepancies between the willingness of the two parties (Morrow, 2013a). In the Young Lives countries, children are generally taught to obey their elders and subsequently, care was taken not to pressure the children to participate. All participants were assured anonymity and confidentially (Morrow, 2013a).

Issues have also been addressed regarding Young Lives' obligations. Many of the study sites had received governmental and non-governmental interventions in the past. Over time, the researchers encountered confusion about the purpose of the research and some participants asked for and anticipated help. The expectation of help does challenge the issue of free consent (Morrow, 2013a). However, the participants were reminded throughout the research process that while there were no material benefits from their participation, their contributions could help to influence programmes and policies, and bring gains in the future. Findings have been reported to some communities in easily accessible and contextually appropriate ways which highlighted the data's worth. In some cases, Young Lives teams have given back in locally-relevant ways by donating resources for common-use, like school supplies.

6. Results

This chapter presents the results of the univariate, bivariate and multivariate analyses which were performed. First, the results of the univariate analyses are presented, including frequencies of the categorical variables and descriptive statistics of the continuous variables. Information about assumption checking is also provided. This is followed by the results of the bivariate analyses. These are t-tests of dichotomous variables, correlations of continuous variables and one-way between-groups ANOVA of categorical variables. Finally, the results of the hierarchical and simultaneous multiple regressions are presented. The multiple regression results pertaining to each dependent variable are given in turn.

6.1 Univariate Analyses

6.1.1 Categorical variables

Initial descriptive analyses of socio-demographic characteristics were run on the 1900 study participants. See Appendix C for a table showing all descriptive statistics of the categorical variables. The study sample consisted of 1017 male adolescents (53.5%) and 877 female adolescents (46.2%), missing: n = 6, 0.3%. Eight hundred and eighty-five participants (46.6%) were from Backwards Classes, 349 (18.4%) were from Scheduled Castes, 281 (14.8%) were from Scheduled Tribes, and 385 (20.3%) were from Other Castes. Almost 70% of the sample (n = 1382, 69.9%) lived in rural areas, with only 29.3% living urbanely (n = 557), missing: n = 15, 0.8%. Most of the sample lived in the state of Andhra Pradesh (n = 1220, 64.2%), with fewer living in Telangana (n = 659, 34.7 %), missing: n = 21, 1.1%.

The clear majority (n = 1675, 88.2 %) of the participants were enrolled in school, with only 8.6% (n = 163) not being enrolled, missing: n = 62, 3.3%. Almost half of the adolescents' caregivers had no formal education (n = 866, 45.6%), 21.7% (n = 413) had completed 1-5 years of education, 26.6% (n = 506) had completed 6-10 years and only 6% (n = 114) had completed 11 or more years, missing: n = 1, 0.1%.

Six hundred and fifty-four (34.4%) of the participant's family households were in the bottom tercile of the WI, 613 (32.3%) were in the middle tercile and 633 (33.3%) were in the top tercile. When subjectively describing their household's wealth status, 59.8% (n = 1136) of the adolescents said that they were comfortable and could manage to get by, 22.4% (n = 425) said they never had quite enough and struggled to get by, 12.5% (n = 237) said that they were poor and 0.1% (n = 1) answered with destitute. On the other hand, 4.5% (n = 86) felt that they

were rich, and 0.2% (*n* = 3) answered with very rich, missing: *n* = 12, 0.6%. In 2006 (Round 2), when the adolescents were 5 years old, 28.7% (*n* = 545) of the sample were moderately stunted and 7% (*n* = 133) were severely stunted. However, 63.5% (*n* = 1207) were not stunted. Stunting information was missing for 0.8% of the sample (*n* = 15).

6.1.2 Continuous variables

The participants' ages ranged from 170 months (14.17 years) to 190 months (15.83 years) (*M* = 180.00, *SD* = 3.78). The PPVT raw scores of the adolescents ranged from 9 to 57, and the mean score was 47.35 (*SD* = 7.89). The mean subjective well-being of the adolescents was 5.06 (1 to 9, *SD* = 1.41). [18] Total self-esteem ranged from 16 to 32, with a mean self-esteem score of 24.75 (*SD* = 2.25) and total self-efficacy ranged from 17 to 40, with a mean score of 31.39 (*SD* = 2.94). The mean subjective well-being of the adolescents' caregivers was 4.57 (1 to 9, *SD* = 1.29). Total caregiver's pride ranged from 6 to 20, with a mean of 15.95 (*SD* = 1.90) and total caregiver's agency ranged from 4 to 15, with an average score of 11.76 (*SD* = 1.71). Parent relations had a range of 14 to 32, with a mean of 27.79 (*SD* = 2.85) and peer relations ranged from 15 to 32, with a mean of 25.08 (*SD* = 2.53). Average household WI was .63 (.10 to .95, *SD* = .16). The adolescents' HAZ scores at 5 years old ranged from -6.74 to 3.13, with an average of -1.67 (*SD* = 0.99). See Appendix D for a table showing descriptive statistics of the continuous variables.

6.2 Assumption Checking

Preliminary analyses were performed to check all the independent and dependent variables for normality, homoscedasticity, multicollinearity and linearity. Overall, the assumptions were not violated. The PPVT raw score variable was one which had a notable negative skew (most participants recorded high scores) and was not approximately normally distributed. Because of this, the PPVT raw score variable was transformed for use in future analyses. The scores were mathematically converted using reflect and logarithm to make the distribution appear more normal.[19] As is encouraged in the literature, after transformation, the PPVT scores were rechecked for normality, homoscedasticity, multicollinearity and linearity (Pallant, 2016;

[18] In the interest of space, in the results chapter, subjective well-being and well-being are used interchangeably.
[19] First, a reflect and square root transformation was tried, because when a distribution differs moderately from normal, this approach is advised (Tabachnick & Fidell, 2013). However, little advantage was found. Tabachnick and Fidell (2013) suggested that a log transformation should be tried next, when the distribution differs more substantially from normal. Further, with negative skews, the recommended strategy is to reflect the variable, and then apply the appropriate transformation for positive skewness. Subsequently, reflect and logarithm was the approach which was taken. This is a useful way of transforming negatively skewed variables for analyses which require normal distribution (Pallant, 2016).

Tabachnick & Fidell, 2013). The transformed variable was found to be approximately normally distributed. Hereafter, 'PPVT score' refers to the transformed variable.

The three dependent variables were checked for multicollinearity and the assumption was not violated. As is to be expected given their relatedness, the variables were associated, but the correlations were not too high. There was a very small positive correlation between subjective well-being and self-esteem, $r = .07$, $n = 1786$, $p = .004$, and a small positive correlation between subjective well-being and self-efficacy, $r = .13$, $n = 1810$, $p < .001$. The correlation between self-esteem and self-efficacy was large, $r = .53$, $n = 1746$, $p < .001$. This result was unsurprising as self-esteem and self-efficacy are each a perception of the self, but it was not large enough to cause concern. See Table 2 for the correlations of the dependent variables.

Table 2

Pearson Product-moment Correlations between Subjective Well-being, Self-esteem and Self-efficacy

Variable		Well-being	Self-esteem	Self-efficacy
Well-being	Pearson Correlation	1		
	N	1889		
Self-esteem	Pearson Correlation	.07**	1	
	N	1786	1786	
Self-efficacy	Pearson Correlation	.13**	.53**	1
	N	1810	1746	1810

Note. PPVT = Peabody Picture Vocabulary Test
**Correlation is significant at the 0.01 level (2-tailed)

6.3 Bivariate Analyses

6.3.1 T-tests of dichotomous variables

Independent samples t-tests were used to compare subjective well-being, self-esteem and self-efficacy in the following dichotomous variables: gender, school enrolment status, area of residence, and state of residence.

Subjective well-being

There was no significant difference in the subjective well-being of males and females. There was however a significant difference in the well-being scores of those enrolled in school ($M = 5.16$, $SD = 1.40$), and those not enrolled in school ($M = 4.39$, $SD = 1.12$), $t(214.78) = -8.19$, $p < .001$ (two-tailed). The subjective well-being of those enrolled in school was significantly higher than those not enrolled in school. The magnitude of the difference in the means (mean difference = -.77, 95% CI: -.96 to -.59) was moderate (Cohen's $d = 0.61$).

There was also a significant difference in the subjective well-being scores of those living in urban areas (M = 5.29, SD = 1.44), and rural areas (M = 4.97, SD = 1.38), t(1000.94) = 4.37, p < .001 (two-tailed). Yet, the magnitude of the difference in the means (mean difference = .32, 95% CI: .17 to .46) was small (Cohen's d = 0.23). There was also a significant difference in the well-being scores of those living in the states of Andhra Pradesh (M = 4.99, SD = 1.27), and Telangana (M = 5.20, SD = 1.63), t(1099.35) = -2.88, p =.004 (two-tailed). In this case, the magnitude of the difference in the means (mean difference = -.21, 95% CI: -.35 to -.07) was very small (Cohen's d = 0.14). See Table 3 for t-tests of subjective well-being.

Table 3

T-tests of Subjective Well-being

Variable	n	Mean (Std. Dev)	Mean Diff.	t	df	Sig. (2-tailed)	95.0% Confidence Interval		Cohen's d
							Lower	Upper	
Gender									
Male	1014	5.01 (1.39)	-.11	-1.62	1887	.106	-.23	.02	0.08
Female	875	5.12 (1.42)							
Total	1889								
Enrolment									
Yes	1671	5.16 (1.40)	-.77	-8.19	214.78	.000	-.96	-.59	0.61
No	163	4.39 (1.12)							
Total	1834								
Area									
Urban	554	5.29 (1.44)	.32	4.37	1000.94	.000	.17	.46	0.23
Rural	1320	4.97 (1.38)							
Total	1874								
State									
Andhra Pradesh	1210	4.99 (1.27)	-.21	-2.88	1099.35	.004	-.35	-.07	0.14
Telangana	659	5.20 (1.63)							
Total	1869								

Self-esteem

Again, there was no significant difference in self-esteem scores for males and females. There was a significant difference in the self-esteem of those enrolled in school (M = 24.81, SD = 2.21), and those not enrolled in school (M = 24.37, SD = 2.56), t(1731) = -2.28, p =.023 (two-tailed). While the adolescents enrolled in school had higher average self-esteem than those not enrolled, the magnitude of the difference in the means (mean difference = -.44, 95% CI: -.81 to -.06) was very small (Cohen's d = 0.18).

With regards to location, there was no significant difference in the self-esteem scores of those living in urban areas and rural areas. There was however a significant difference in the self-

esteem scores of those living in Andhra Pradesh (M = 24.63, SD = 2.27), and Telangana (M = 25.01, SD = 2.20), $t(1764) = -3.37$, p =.001 (two-tailed). Yet, the level of the difference in the means (mean difference = -.38, 95% CI: -.60 to -.16) was very small (Cohen's d = 0.17). See Table 4 for t-tests of self-esteem.

Table 4

T-tests of Self-esteem

Variable	n	Mean (Std. Dev)	Mean Diff.	t	df	Sig. (2-tailed)	95.0% Confidence Interval		Cohen's d
							Lower	Upper	
Gender									
Male	959	24.68 (2.25)	-.16	-1.49	1784	.138	-.37	.05	0.07
Female	827	24.84 (2.25)							
Total	1786								
Enrolment									
Yes	1582	24.81 (2.21)	-.44	-2.28	1731	.023	-.81	-.06	0.18
No	151	24.37 (2.56)							
Total	1733								
Area									
Urban	531	24.79 (2.37)	.07	.56	937.68	.574	-.17	.30	0.03
Rural	1240	24.72 (2.19)							
Total	1771								
State									
Andhra Pradesh	1172	24.63 (2.27)	-.38	-3.37	1764	.001	-.60	-.16	0.17
Telangana	594	25.01 (2.20)							
Total	1766								

Self-efficacy

There was also no significant difference in self-efficacy scores for males and females. There was however a significant difference in the self-efficacy of those enrolled in school (M = 31.56, SD = 2.85), and those not enrolled in school (M = 29.88, SD = 3.43), $t(1761) = -6.70$, $p < .001$ (two-tailed). Those enrolled in school scored higher on self-efficacy than those not enrolled. The magnitude of the difference in the means (mean difference = -1.67, 95% CI: -2.17 to -1.18) was moderate (Cohen's d = 0.53, a medium effect). There was no significant difference in the self-efficacy scores of those living in urban areas and rural areas, or between those living in Andhra Pradesh and Telangana. See Table 5 for t-tests of self-efficacy.

Table 5

T-tests of Self-efficacy

Variable	n	Mean (Std. Dev)	Mean Diff.	t	df	Sig. (2-tailed)	95.0% Confidence Interval		Cohen's d
							Lower	Upper	
Gender									
Male	978	31.43 (2.94)	.11	.76	1808	.448	-.17	.38	0.03
Female	832	31.33 (2.94)							
Total	1810								
Enrolment									
Yes	1616	31.56 (2.85)	-1.67	-6.70	1761	.000	-2.17	-1.18	0.53
No	147	29.88 (3.43)							
Total	1763								
Area									
Urban	533	31.55 (2.98)	.25	1.66	1793	.097	-.05	.55	0.09
Rural	1262	31.30 (2.91)							
Total	1795								
State									
Andhra Pradesh	1186	31.33 (2.98)	-.16	-1.10	1788	.27	-.45	.13	0.06
Telangana	604	31.49 (2.87)							
Total	1790								

6.3.2 Correlations of continuous variables

The relationships between subjective well-being, self-esteem and self-efficacy and the continuous variables: PPVT score, caregiver's subjective well-being, caregiver's pride, caregiver's agency, parent relations, peer relations, WI and height-for-age at 5 years old, were investigated using Pearson product-moment correlation coefficients. Preliminary analyses were performed to ensure that the assumptions of normality, linearity and homoscedasticity were not violated.

Subjective well-being

For subjective well-being, all the variables included were significant correlates. Transformed PPVT score was somewhat negatively correlated with well-being (r = -.19, n = 1882, p < .001). As Tabachnick and Fidell (2013) advised, when interpreting a reflected variable, as is the case here, it is important to reverse the direction of the interpretation as well. This applies to the interpretation of any relationships which include transformed PPVT. This means that the negative correlation above can be interpreted as a positive correlation, indicating that higher levels of cognitive functioning are associated with higher subjective well-being.

Furthermore, there was a moderate-strong, positive correlation between caregiver's subjective well-being and adolescent's subjective well-being (r = .49, n = 1889, p < .001). This

suggests that higher caregiver well-being is associated with higher adolescent well-being. Caregiver's pride (r = .13, n = 1845, p < .001), parent relations (r = .13, n = 1848, p < .001), peer relations (r = .10, n = 1809, p < .001), WI (r = .25, n = 1889, p < .001), and height-for-age at 5 years old (r = .13, n = 1878, p < .001) were all shown to be weakly positively correlated with subjective well-being. There was also a very weak positive correlation between caregiver's agency and well-being (r = .08, n = 1794, p =.001). This indicates that higher levels of these factors are related to higher subjective well-being. See Table 6 for Pearson product-moment correlations between subjective well-being and the continuous variables.

Table 6

Pearson Product-moment Correlations between Subjective Well-being and PPVT Score, Caregiver's Subjective Well-being, Caregiver's Pride, Caregiver's Agency, Parent Relations, Peer Relations, WI and Height-for-age at 5 years old

Variable	n	Missing	Pearson Correlation	Sig (2-tailed)
PPVT score	1882	18	-.19**	.000
Caregiver's well-being	1889	11	.49**	.000
Caregiver's pride	1845	55	.13**	.000
Caregiver's agency	1794	106	.08**	.000
Parent relations	1848	52	.13**	.000
Peer relations	1809	91	.10**	.000
WI	1889	11	.25**	.000
Height-for-age at 5 years old	1878	22	.13**	.000

Note. PPVT = Peabody Picture Vocabulary Test
**Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05 level (2-tailed)

Self-esteem

Caregiver's pride, caregiver's agency, parent relations and peer relations were all significant correlates of self-esteem. There was a strong, positive correlation between peer relations and self-esteem (r = .59, n = 1745, p < .001), with higher (more positive) levels of peer relations associated with higher self-esteem. There were also weak positive correlations between caregiver's pride and self-esteem (r = .16, n = 1745, p < .001), caregiver's agency and self-esteem (r = .17, n = 1702, p < .001), and parent relations and self-esteem (r = .29, n = 1753, p < .001), with higher levels of these factors associated with higher self-esteem. The remaining variables (PPVT score, caregiver's subjective well-being, WI, and height-for-age at 5 years) were not significant correlates of self-esteem. See Table 7 for Pearson product-moment correlations between self-esteem and the continuous variables.

Table 7

Pearson Product-moment Correlations between Self-esteem and PPVT Score, Caregiver's Subjective Well-being, Caregiver's Pride, Caregiver's Agency, Parent Relations, Peer Relations, WI and Height-for-age at 5 years old

Variable	n	Missing	Pearson Correlation	Sig (2-tailed)
PPVT score	1780	120	-.03	.229
Caregiver's well-being	1786	114	-.04	.131
Caregiver's pride	1745	155	.16**	.000
Caregiver's agency	1702	198	.17**	.000
Parent relations	1753	147	.29**	.000
Peer relations	1745	155	.59	.000
WI	1786	114	.04	.106
Height-for-age at 5 years old	1776	124	.03	.270

Note. PPVT = Peabody Picture Vocabulary Test
**Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05 level (2-tailed)

Self-efficacy

For self-efficacy, all the variables included were significant correlates. There was a moderate-strong, positive correlation between peer relations and self-efficacy (r = .47, n = 1759, p < .001), with higher levels of peer relations associated with higher self-efficacy. There were also weak positive correlations between caregiver's pride and self-efficacy (r = .15, n = 1772, p < .001), caregiver's agency and self-efficacy (r = .13, n = 1724, p < .001), parent relations and self-efficacy (r = .23, n = 1775, p < .001), and WI and self-efficacy (r = .14, n = 1810, p < .001). There was a weak, negative correlation between transformed (reversed) PPVT score and self-efficacy (r = -.15, n = 1804, p < .001). This indicates that higher levels of these various variables are associated with greater levels of self-efficacy. Finally, there were very weak positive correlations between caregiver's subjective well-being and adolescent's self-efficacy (r = .05, n = 1810, p =.042), and height-for-age at 5 years old and self-efficacy (r = .05, n = 1799, p =.029). See Table 8 for Pearson product-moment correlations between self-efficacy and the continuous variables.

Table 8

Pearson product-moment Correlations between Self-efficacy and PPVT Score, Caregiver's Subjective Well-being, Caregiver's Pride, Caregiver's Agency, Parent Relations, Peer Relations, WI and Height-for-age at 5 years old

Variable	n	Missing	Pearson Correlation	Sig (2-tailed)
PPVT score	1804	96	-.15**	.000
Caregiver's well-being	1810	90	.05*	.042
Caregiver's pride	1772	128	.15**	.000
Caregiver's agency	1724	176	.13**	.000
Parent relations	1775	125	.23**	.000
Peer relations	1759	141	.47**	.000
WI	1810	90	.14**	.000
Height-for-age at 5 years old	1799	101	.05*	.029

Note. PPVT = Peabody Picture Vocabulary Test
**Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05 level (2-tailed)

6.3.3 One-way between-groups ANOVA of categorical variables

One-way between groups analysis of variance (ANOVA) was used to explore differences in mean scores of subjective well-being, self-esteem and self-efficacy, between groups. These differences were based on ethnic group, caregiver's highest level of education completed, and subjective household wealth status.[20] There were four categories for ethnic group (1: Scheduled Castes, 2: Scheduled Tribes, 3: Backwards Classes, 4: Other Castes). Caregiver's highest level of education completed was also separated into four groups (1: no formal education, 2: 1-5 years, 3: 6-10 years, 4: 11+ years). For this analysis, subjective household wealth status was recoded into five levels (1: very rich, 2: rich, 3: comfortable, 4: struggle to get by, 5: poor or destitute).

Subjective well-being

Ethnic group

Levene's test for homogeneity of variances indicated a violation of the assumption of homogeneity of variance ($p < .05$). A Welch F test was consulted, and there was a statistically significant difference at the $p < .05$ level for subjective well-being for the four ethnic groups: F (3, 765.81) = 8.80, $p < .001$. Yet, the actual difference in mean scores was small. The effect size calculated using eta squared was .01. See Appendix E.1 for the one-way between groups ANOVA for subjective well-being, depending on ethnic group. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Group 4, Other Castes (M = 5.36, SD =

[20] The one-way between-groups ANOVA and descriptive statistics tables for subjective well-being (Appendix E) self-esteem (Appendix F) and self-efficacy (Appendix G) are provided in the appendices section.

1.45), was significantly different from the other groups, Scheduled Castes (*M* = 4.82, *SD* = 1.46), Scheduled Tribes (*M* = 5.00, *SD* = 1.30), and Backwards Classes (*M* = 5.04, *SD* = 1.38). See Appendix E.2 for subjective well-being descriptive statistics by ethnic group.

Caregiver's education level

Levene's test for homogeneity of variances indicated a violation of the assumption of homogeneity of variance ($p < .05$). A Welch F test was consulted, and there was a statistically significant difference at the $p < .05$ level, F (3, 470.20) = 28.75, $p < .001$. However, the actual difference in mean scores was quite small. The effect size calculated using eta squared was .04. See Appendix E.3 for the one-way between groups ANOVA for subjective well-being, depending on caregiver's education level. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Group 4, 11+ years (*M* = 5.97, *SD* = 1.29), was significantly different from Group 1 (no formal education: *M* = 4.85, *SD* = 1.42), Group 2 (1-5 years: *M* = 5.01, *SD* = 1.31) and Group 3 (6-10 years: *M* = 5.26, *SD* = 1.38). Group 3 was also significantly different from Group 1 and Group 2. Refer to Appendix E.4 for the subjective well-being descriptive statistics by caregiver's education level.

Subjective household wealth status

Levene's test for homogeneity of variances indicated a violation of the assumption of homogeneity of variance ($p < .05$). A Welch F test was consulted, and there was a statistically significant difference at the $p < .05$ level for subjective well-being, F (4, 15.76) = 142.83, $p < .001$. The difference in mean scores between the groups was large. The effect size calculated using eta squared was .20. See Appendix E.5 for the one-way between groups ANOVA for subjective well-being, depending on subjective household wealth status.

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Group 5, poor or destitute (*M* = 4.11, *SD* = 1.23), was significantly different from Group 1 (very rich: *M* = 8.67, *SD* = .58), Group 2 (rich: *M* = 6.81, *SD* = 1.05) Group 3 (comfortable: *M* = 5.33, *SD* = 1.30) and Group 4 (struggle to get by: *M* = 4.50, *SD* = 1.20). Group 4 was also significantly different from Group 1, Group 2 and Group 3. Group 3 was significantly different from Group 1 and Group 2 as well. Refer to Appendix E.6 for the subjective well-being descriptive statistics by subjective household wealth status.

Self-esteem

Ethnic group

Levene's test for homogeneity of variances indicated a violation of the assumption of homogeneity of variance ($p < .05$). A Welch F test was consulted, but there was no statistically significant difference between the groups: F (3, 719.22) = .66, p =.576. See Appendix F.1 for the one-way between groups ANOVA for self-esteem, depending on ethnic group. Self-esteem scores for Scheduled Castes (M = 24.87, SD = 2.16), Scheduled Tribes (M = 24.60, SD = 2.61), Backwards Classes (M = 24.76, SD = 2.12), and Other Castes (M = 24.74, SD = 2.31) were not significantly different. Refer to Appendix F.2 for a table showing the self-esteem descriptive statistics by ethnic group.

Caregiver's education level

Levene's test for homogeneity of variances indicated no violation of the assumption of homogeneity of variance ($p > .05$). There was no statistically significant difference in self-esteem based on caregiver's education level: F (3, 1781) = 1.84, p =.138. See Appendix F.3 for the one-way between groups ANOVA for self-esteem, depending on caregiver's education level. Adolescents of caregivers with no education had a mean self-esteem score of 24.72 (SD = 2.15), with 1-5 years had a mean score of 24.89 (SD = 2.29), with 6-10 years had a mean score of 24.63 (SD = 2.35), and with 11+ years had a mean score of 25.08 (SD = 2.35). See Appendix F.4 for the self-esteem descriptive statistics by caregiver's education level.

Subjective household wealth status

Levene's test for homogeneity of variances indicated a violation of the assumption of homogeneity of variance ($p < .05$). A Welch F test was consulted, and a statistically significant difference at the $p < .05$ level was found in the self-esteem scores of the five subjective wealth categories: F (4, 15.60) = 3.89, p =.022. Despite reaching statistical significance, the actual difference in mean scores between the groups was very small. The effect size calculated using eta squared was .01. See Appendix F.5 for the one-way between groups ANOVA for self-esteem, depending on subjective household wealth status.

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Group 5 (poor or destitute: M = 24.23, SD = 2.07) was significantly different from Group 2 (rich: M = 25.11, SD = 2.67), Group 3 (comfortable: M = 24.77, SD = 2.18) and Group 4 (struggle to get by: M = 24.91, SD = 2.39). Group 1 (very rich: M = 25.33, SD = 1.53) did not differ

significantly from any of the other groups. Refer to Appendix F.6 for the self-esteem descriptive statistics by subjective household wealth status.

Self-efficacy

Ethnic group

Levene's test for homogeneity of variances indicated a violation of the assumption of homogeneity of variance ($p < .05$). A Welch F test was consulted, but no statistically significant between groups differences were found: F (3, 710.65) = 1.04, p =.376. See Appendix G.1 for the one-way between groups ANOVA for self-efficacy, depending on ethnic group. None of the mean self-efficacy scores for Scheduled Castes (M = 31.39, SD = 2.97), Scheduled Tribes (M = 31.07, SD = 3.62), Backwards Classes (M = 31.42, SD = 2.69) and Other Castes (M = 31.53, SD = 2.89) were significantly different from the other groups. Refer to Appendix G.2 for the self-efficacy descriptive statistics by ethnic group.

Caregiver's education level

Levene's test for homogeneity of variances indicated that the assumption of homogeneity of variance was not violated ($p > .05$). There was a statistically significant difference at the $p < .05$ level: F (3, 1805) = 11.66, $p < .001$. Despite reaching statistical significance, the difference in mean scores between the groups was small. The effect size, calculated using eta squared, was .02. See Appendix G.3 for the one-way between groups ANOVA for self-efficacy, depending on caregiver's education level. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for adolescents in Group 4, whose parents had 11 or more years of education (M = 32.82, SD = 2.97), was significantly different from Group 1 (no formal education: M = 31.13, SD = 2.88), Group 2 (1-5 years: M = 31.58, SD = 2.98), and Group 3 (6-10 years: M = 31.35, SD = 2.91). Refer to Appendix G.4 for the self-efficacy descriptive statistics by caregiver's education level.

Subjective household wealth status

Levene's test for homogeneity of variances indicated a violation of the assumption of homogeneity of variance ($p < .05$). A Welch F test was consulted, and a statistically significant difference at the $p < .05$ level was found in the self-efficacy scores of the groups: F (4, 15.51) = 7.22, p =.002. Despite reaching statistical significance, the actual difference in mean scores between the groups was small. The effect size calculated using eta squared was .02. See Appendix G.5 for the one-way between groups ANOVA for self-efficacy, depending on subjective household wealth status. Post-hoc comparisons using the Tukey HSD test

indicated that the mean score for Group 5 (poor or destitute: M = 30.45, SD = 2.840) was significantly different from Group 2 (rich: M = 32.26, SD = 3.29), Group 3 (comfortable: M = 31.51, SD = 2.78) and Group 4 (struggle to get by: M = 31.37, SD = 3.21). Group 1 (very rich: M = 33.67, SD = 4.62) did not differ significantly from any of the other groups. See Appendix G.6 for the self-efficacy descriptive statistics by subjective household wealth status.

6.4 Multiple Regression

Hierarchical multiple regression was used to examine the ability of the various independent variables to predict levels of subjective well-being, self-esteem and self-efficacy in the adolescent sample. The categorical variables (ethnic group, caregiver's education level and subjective household wealth status) were recoded into dummy variables for inclusion in this analysis. Subjective household wealth status specifically was recoded to represent subjectively poor or subjectively not poor. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity.

6.4.1 Subjective well-being

6.4.1.1 Initial model

The individual-level factors (gender, ethnic group and PPVT score) were entered at Step 1, explaining 4.7% of the variation in subjective well-being (R^2 = .047). In Step 2, the microsystem factors (caregiver's level of education, caregiver's subjective well-being, caregiver's pride, caregiver's agency, parent relations, and peer relations) were entered. The model now explained 26.3% of variance (R^2 = .263). The micro-level variables explained an additional 21.6% of the variance in subjective well-being, R^2 change = .216, F change (8, 1710) = 62.66, p < .001.

After the entry of school enrolment at the exosystem level in Step 3, the total variance explained by the model was 26.9% (R^2 = .269). This additional variable explained a further 0.6% of variance, R^2 change = .006, F change (1, 1709) = 13.52, p < .001. In Step 4, the macrosystem factors (household WI, coming from a subjectively poor household, area of residence and state of residence) were entered. The model now explained 32.9% of variance (R^2 = .329). The macro-level variables explained an added 6.0% of variance in subjective well-being, R^2 change = .060, F change (4, 1705) = 38.15, p < .001.

Finally, at Step 5, after the entry of height-for-age at 5 years old, at the chronosystem level, the total variance explained by the model as a whole remained at 32.9%, F (19, 1704) =

44.00, $p < .001$, $R^2 = .329$. The addition of the chronosystem factor did not explain any further variance, R^2 change = .000, F change (1, 1704) = .71, p =.399. See Table 9 for the initial model's summary of hierarchical multiple regression of subjective well-being.

Table 9

Initial Model's Summary[f] of Hierarchical Multiple Regression of Subjective Well-being

				Std. Error	Change Statistics				
			Adjusted	of the	R^2	F			Sig. F
Model	R	R^2	R^2	Estimate	Change	Change	df1	df2	Change
1	.217[a]	.047	.044	1.374	.047	16.93	5	1718	.000
2	.513[b]	.263	.257	1.211	.216	62.66	8	1710	.000
3	.518[c]	.269	.263	1.206	.006	13.52	1	1709	.000
4	.573[d]	.329	.322	1.157	.060	38.15	4	1705	.000
5	.574[e]	.329	.322	1.157	.000	.71	1	1704	.399

a-e. See Appendix H for a list of the independent variables included in each model
f. Dependent Variable: Subjective well-being

In the fifth model, the statistically significant variables were PPVT score (beta = -.08, $p <$ .001), caregiver's well-being (beta = .40, $p < .001$), parent relations (beta = .07, p =.001), school enrolment (beta = .06, p =.004), coming from a subjectively poor household (beta = -.23, $p < .001$), and state of residence (beta = .17, $p < .001$). Caregiver's subjective well-being made the strongest significant unique contribution to subjective well-being. The model explained 32.9% of variance overall (F (19, 1704) = 44.00, $p < .001$, $R^2 = .329$). Other factors, across the levels of the ESM, were not significant in these data. See Appendix I for the initial model's coefficients of hierarchical multiple regression of subjective well-being.

6.4.1.2 Final model

In order to produce a parsimonious final model, all variables that did not show statistical significance were removed. The remaining variables were analysed via multiple regression using the enter method (all of the independent variables were entered simultaneously). The final model was checked for Tolerance, VIFs, and violations of assumptions including outliers, normality, linearity, homoscedasticity, and independence of residuals. Normal P-P plot and Scatterplot of Standardised Residuals were not concerning as only a few outliers were identified. Six outliers outside the critical value were examined and removed. Removing outliers in this model did little to affect the overall variance. The final model consisted of six independent variables, PPVT score, caregiver's subjective well-being, parent relations, school enrolment status, coming from a subjectively poor household and state of residence. The final

model explained 32.6% of variance (F (6, 1781) = 143.25, $p < .001$, $R^2 = .326$). See Table 10 for the final model's summary of simultaneous multiple regression of subjective well-being.

Table 10

Final Model's Summary[b] of Simultaneous Multiple Regression of Subjective Well-being

				Std. Error	Change Statistics				
Model	R	R^2	Adjusted R^2	of the Estimate	R^2 Change	F Change	df1	df2	Sig. F Change
1	.571[a]	.326	.323	1.156	.326	143.25	6	1781	.000

a. Predictors: (Constant), PPVT score, Caregiver's well-being, Parent relations, School enrolment, Household is subjectively poor, State
b. Dependent Variable: Subjective well-being

Caregiver's subjective well-being (beta = .39, $p < .001$) was most highly correlated with adolescent's subjective well-being, followed by coming from a subjectively poor household (beta = -.23, $p < .001$), which was inversely related to subjective well-being. State of residence also made a notable contribution (beta = .17, $p < .001$). PPVT score (beta = -.08, $p < .001$), parent relations (beta = .09, $p < .001$), and school enrolment (beta = .06, p =.004), all also remained significant. See Table 11 for the final model's coefficients.

Table 11

Final Model's Coefficients[a] of Simultaneous Multiple Regression of Subjective Well-being

		Unstandardised Coefficients		Std. Coefs			95.0% Confidence Interval for B	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	1.94	.33		5.84	.000	1.29	2.59
	PPVT score	-.34	.09	-.08	-3.98	.000	-.51	-.17
	CG's well-being	.43	.02	.39	18.94	.000	.39	.48
	Parent relations	.05	.01	.09	4.39	.000	.03	.07
	School enrolment	.29	.10	.06	2.89	.004	.09	.48
	Subjectively poor	-.66	.06	-.23	-10.67	.000	-.79	-.54
	State of residence	.51	.06	.17	8.54	.000	.39	.63

Note. PPVT = Peabody Picture Vocabulary Test, CG= Caregiver
a. Dependent Variable: Subjective well-being

6.4.2 Self-esteem

6.4.2.1 Initial model

The individual-level factors (gender, ethnic group and PPVT score) were entered at Step 1, explaining 0.3% of the variation in self-esteem ($R^2 = .003$). In Step 2, the microsystem factors

(caregiver's level of education, caregiver's subjective well-being, caregiver's pride, caregiver's agency, parent relations, and peer relations) were entered. The model explained 38.3% of variance (R^2 = .383). The micro-level variables explained an additional 37.9% of the variance in self-esteem, R^2 change = .379, F change (8, 1688) = 129.68, $p < .001$.

After the entry of school enrolment at the exosystem level in Step 3, the total variance explained by the model remained at 38.3% (R^2 = .383). This additional variable explained no further variance, R^2 change = .000, F change (1, 1687) = .01, p =.925. In Step 4, the macrosystem factors (household WI, coming from a subjectively poor household, area of residence and state of residence) were entered. The model now explained 38.6% of variance (R^2 = .386). The macro-level variables explained an added 0.3% of variance in self-esteem, R^2 change = .003, F change (4, 1683) = 2.32, p =.055.

Finally, at Step 5, after the entry of height-for-age at 5 years old, at the chronosystem level, the total variance explained by the model as a whole was 38.7%, F (19, 1682) = 55.86, $p <$ .001, R^2 = .387. The addition of the chronosystem factor explained a further 0.1% of variance R^2 change = .001, F change (1, 1682) = 2.24, p =.135. See Table 12 for the initial model's summary of hierarchical multiple regression of self-esteem.

Table 12

Initial Model's Summary[f] of Hierarchical Multiple Regression of Self-esteem

				Std. Error	Change Statistics				
Model	R	R^2	Adjusted R^2	of the Estimate	R^2 Change	F Change	df1	df2	Sig. F Change
1	.057[a]	.003	.000	2.246	.003	1.10	5	1696	.357
2	.619[b]	.383	.378	1.772	.379	129.68	8	1688	.000
3	.619[c]	.383	.378	1.772	.000	.01	1	1687	.925
4	.621[d]	.386	.379	1.770	.003	2.32	4	1683	.055
5	.622[e]	.387	.380	1.769	.001	2.24	1	1682	.135

a-e. See Appendix H for a list of the independent variables included in each model
f. Dependent Variable: Self-esteem

In model 5, the statistically significant variables were caregiver having 6-10 years of education (beta = -.05, p =.037), caregiver's subjective well-being (beta = -.08, p =.001), caregiver's pride (beta = .07, p =.001), caregiver's agency (beta = .06, p =.002), parent relations (beta = .15, $p < .001$), peer relations (beta = .53, $p < .001$) and state (beta = .06, p =.002). Peer relations made the strongest significant unique contribution. See Appendix J for the initial model's coefficients of hierarchical multiple regression of self-esteem.

6.4.2.2 Revised model

The decision was made to remove caregiver's years of education from further analysis due to the irregular and atypical results which this variable produced. While a small significant effect was found for having a caregiver with 6-10 years of education, the result was negative and inconsistent with the direction of the other education levels. This variable only just reached significance in the fifth model, and it contributed little to explaining the variance in self-esteem. These unusual results may be related to the uneven distribution of the variable across the education categories. Many more adolescents' caregivers had no formal education (n = 866, 45.6%), than had completed 11 or more years (n = 114, 6%). Some researchers are also cautious about linking caregiver education to child outcomes and have attested that maternal education, for example, might just be a proxy for other factors like socioeconomic status or geographic location (Lyytikäinen et al., 2006). These influences were adequately captured in the data and included in the initial model. Subsequently, the education levels were removed, and the six remaining significant variables were reanalysed via multiple regression using the enter method.[21] This was done to make sure that all these variables stayed significant once caregiver's education was removed. They all did. The revised model explained 38.0% of variance in self-esteem (F (6, 1695) = 173.51, p < .001, R^2 = .380). See Table 13 for the revised model's summary of simultaneous multiple regression of self-esteem.

Table 13

Revised Model's Summary[b] of Simultaneous Multiple Regression of Self-esteem

				Std. Error	Change Statistics				
Model	R	R^2	Adjusted R^2	of the Estimate	R^2 Change	F Change	df1	df2	Sig. F Change
1	.617[a]	.380	.378	1.771	.380	173.51	6	1695	.000

a. Predictors: (Constant), Caregiver's well-being, Caregiver's pride, Caregiver's agency, Parent relations, State
b. Dependent Variable: Self-esteem

The revised model retained caregiver's well-being (beta = -.08, p < .001), caregiver's pride (beta = .07, p < .001), caregiver's agency (beta = .06, p =.004), parent relations (beta = .15, p < .001), peer relations (beta = .53, p < .001) and state of residence (beta = .06, p =.002). See Table 14 for the revised model's coefficients of simultaneous multiple regression of self-esteem.

[21] An additional hierarchical multiple regression was first performed, and the 16 remaining variables were entered in five steps as before. However, the results were the same as those produced using the enter method.

Table 14

Revised Model's Coefficients[a] of Simultaneous Multiple Regression of Self-esteem

Model		Unstandardised Coefficients		Std. Coefs			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	8.15	.63		13.04	.000	6.93	9.38
	CG's well-being	-.13	.03	-.08	-3.95	.000	-.20	-.07
	CG's pride	.08	.02	.07	3.38	.001	.03	.13
	CG's agency	.08	.03	.06	2.89	.004	.02	.13
	Parent relations	.12	.02	.15	7.05	.000	.08	.15
	Peer relations	.47	.02	.53	25.80	.000	.43	.50
	State of residence	.29	.09	.06	3.12	.002	.11	.48

Note. CG= Caregiver
a. Dependent Variable: Self-esteem

6.4.2.3 Final model

To produce a parsimonious final model, only the variables which had shown statistical significance were retained and analysed via simultaneous multiple regression. The final model was checked for Tolerance, VIFs, and violations of assumptions including outliers, normality, linearity, homoscedasticity, and independence of residuals. Normal P-P plot and Scatterplot of Standardised Residuals were not concerning and only a few outliers were identified. A total of 22 outliers were examined and removed. Removing outliers in this model had a small effect on the overall variance. In the final model, one outlier outside of the critical value was examined. However, this was determined to be within naturalistic possibilities. Removing outliers in this model did little to affect the overall variance and this single outlier was eventually retained. The final model consisted of six predictors; caregiver's well-being, caregiver's pride, caregiver's agency, parent relations, peer relations and state of residence. The final model explained 37.3% of variance (F (6, 1673) = 166.05, $p < .001$, $R^2 = .373$). Table 15 shows the final model's summary of simultaneous multiple regression of self-esteem.

Table 15

Final Model's Summary[b] of Simultaneous Multiple Regression of Self-esteem

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics: R^2 Change	F Change	df1	df2	Sig. F Change
1	.611[a]	.373	.371	1.766	.373	166.05	6	1673	.000

a. Predictors: (Constant), Caregiver's well-being, Caregiver's pride, Caregiver's agency, Parent relations, State
b. Dependent Variable: Self-esteem

Peer relations was the factor most highly correlated with self-esteem (beta = .53, $p < .001$), followed by parent relations (beta = .14, $p < .001$). State of residence (beta = .06, $p = .002$), caregiver's pride (beta = .06, $p = .004$), and caregiver's agency (beta = .05, $p = .008$), all also remained significant. Interestingly, caregiver's subjective well-being had a similar, but inverse association with self-esteem (beta = -.08, $p < .001$). See Table 16 for the final model's coefficients of simultaneous multiple regression of self-esteem.

Table 16

Final Model's Coefficients[a] of Simultaneous Multiple Regression of Self-esteem

Model		Unstandardised Coefficients: B	Std. Error	Std. Coefs: Beta	t	Sig.	95.0% Confidence Interval for B: Lower Bound	Upper Bound
1	(Constant)	8.37	.65		12.88	.000	7.10	9.65
	CG's well-being	-.13	.03	-.08	-3.92	.000	-.20	-.07
	CG's pride	.07	.03	.06	2.74	.006	.02	.12
	CG's agency	.07	.03	.05	2.67	.008	.02	.13
	Parent relations	.11	.02	.14	6.59	.000	.08	.15
	Peer relations	.47	.02	.53	25.67	.000	.44	.51
	State of residence	.28	.09	.06	2.98	.003	.10	.47

Note. CG= Caregiver
a. Dependent Variable: Self-esteem

6.4.3 Self-efficacy

6.4.3.1 Initial model

The individual-level factors (gender, ethnic group and PPVT score) were entered at Step 1, explaining 2.4% of the variation in self-efficacy ($R^2 = .024$). In Step 2, the microsystem factors (caregiver's level of education, caregiver's subjective well-being, caregiver's pride, caregiver's agency, parent relations, and peer relations) were entered. The model now

explained 25.6% of variance (R^2 = .256). The micro-level variables explained a further 23.3% of the variance in self-efficacy, R^2 change = .233, F change (8, 1710) = 66.88, p < .001.

After the entry of school enrolment at the exosystem level in Step 3, the total variance explained by the model increased to 26.3% (R^2 = .263). This additional variable explained a further 0.7% of variance in self-efficacy R^2 change = .007, F change (1, 1709) = 15.88, p < .001. In Step 4, the macrosystem factors (household WI, coming from a subjectively poor household, area of residence and state of residence) were entered. The model now explained 26.7% of variance (R^2 = .267). The macro-level variables explained an added 0.4% of variance in self-efficacy, R^2 = .004, F change (4, 1705) = 2.44, p =.045.

Finally, at Step 5, after the entry of height-for-age at 5 years old, at the chronosystem level, the total variance explained by the model as a whole was 26.8%, F (19, 1704) = 32.78, p < .001, R^2 = .268. The addition of the chronosystem factor did not explain any further variance in self-efficacy, R^2 change = .000, F change (1, 1704) = .56, p =.455. See Table 17 for the initial model's summary of hierarchical multiple regression of self-efficacy.

Table 17

Initial Model's Summary[f] of Hierarchical Multiple Regression of Self-efficacy

				Std. Error	Change Statistics				
Model	R	R^2	Adjusted R^2	of the Estimate	R^2 Change	F Change	df1	df2	Sig. F Change
1	.154[a]	.024	.021	2.908	.024	8.34	5	1718	.000
2	.506[b]	.256	.251	2.544	.233	66.88	8	1710	.000
3	.513[c]	.263	.257	2.533	.007	15.88	1	1709	.000
4	.517[d]	.267	.260	2.529	.004	2.44	4	1705	.045
5	.517[e]	.268	.259	2.529	.000	.56	1	1704	.455

a-e. See Appendix H for a list of the independent variables included in each model
f. Dependent Variable: Self-efficacy

In the fifth model, the statistically significant variables were gender (beta = -.05, p =.017), PPVT score (beta = -.07, p =.002), having a caregiver with 11 or more years of education (beta = .07, p =.008), parent relations (beta = .09, p < .001), peer relations (beta = .42, p < .001), school enrolment (beta = .08, p < .001), and WI (beta = .07, p =.010). Peer relations made the strongest significant unique contribution to self-efficacy by far. See Appendix K for all the initial model's coefficients of hierarchical multiple regression of self-efficacy.

6.4.3.2 Revised model

Again, the decision was made to remove caregiver's years of education from further analysis due to the unusual and irregular results which this variable produced. While a small significant effect was found for caregiver's education level, the results were once more inconsistent, showing an effect which was scattered and erratic. As the significance level of the significant education level (11 or more years) was slightly stronger for self-efficacy than in the previous case of self-efficacy, an additional hierarchical multiple regression was performed. The same steps as above were followed, this time with the 16 remaining variables (excluding caregiver's education level) See Appendices L and M for the results of this analysis. Caregiver's pride, which had almost reached statistical significance in the previous analysis, reached statistical significance in this case (in the fifth model, beta = .05, p =.044).

Then, caregiver's pride, along with the six other variables which had reached statistical significance before, were reanalysed via multiple regression using the enter method. The revised model, F (7, 1751) = 86.41, $p < .001$, $R^2 = .257$, explained 25.7% of variance. Table 18 shows the revised model's summary of simultaneous multiple regression of self-efficacy.

Table 18

Revised Model's Summary[b] of Simultaneous Multiple Regression of Self-efficacy

				Std. Error		Change Statistics			
			Adjusted	of the	R^2	F			Sig. F
Model	R	R^2	R^2	Estimate	Change	Change	df1	df2	Change
1	.507[a]	.257	.254	2.539	.257	86.41	7	1751	.000

a. Predictors: (Constant), Gender, PPVT score, Caregiver's pride, Parent relations, Peer relations, School enrolment, WI

b. Dependent Variable: Self-efficacy

In the revised model, the statistically significant variables were gender (beta = -.05, p =.013), PPVT score (beta = -.07, p =.001), caregiver's pride (beta = .05, $p < .018$), parent relations (beta = .09, $p < .001$), peer relations (beta = .42, $p < .001$), school enrolment (beta = .08, $p <$ .001), and household WI (beta = .06, p =.012). Peer relations made the strongest significant unique contribution to self-efficacy. See Table 19 for the revised model's coefficients of simultaneous multiple regression of self-efficacy.

Table 19

Revised Model's Coefficients[a] of Simultaneous Multiple Regression of Self-efficacy

Model		Unstandardised Coefficients		Std. Coefs			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	14.63	.93		15.73	0.00	12.81	16.46
	Gender	-.30	.12	-.05	-2.49	0.01	-.54	-.06
	PPVT score	-.64	.19	-.07	-3.30	0.00	-1.01	-.26
	CG's pride	.08	.03	.05	2.36	0.02	.01	.14
	Parent relations	.09	.02	.09	4.02	0.00	.05	.13
	Peer relations	.49	.03	.42	19.48	0.00	.44	.54
	School enrolment	.82	.22	.08	3.70	0.00	.39	1.26
	WI	1.02	.41	.06	2.52	0.01	.23	1.82

Note. PPVT = Peabody Picture Vocabulary Test
a. Dependent Variable: Self-efficacy

6.4.3.3 Final model

In order to produce a parsimonious final model, only the variables which had shown statistical significance were retained. The remaining variables were analysed via multiple regression using the enter method. The final model was checked for Tolerance, VIFs, and violations of assumptions including outliers, normality, linearity, homoscedasticity, and independence of residuals. Normal P-P plot and Scatterplot of Standardised Residuals were not concerning. A total of 23 outliers outside the critical values were examined and removed. Removing outliers in this model did little to affect the overall variance. Ultimately the final model consisted of seven predictor variables, gender, PPVT score, caregiver's pride, parent relations, peer relations, school enrolment, and household WI. The final model explained 25.5% of variance, F (7, 1731) = 84.44, $p < .001$, $R^2 = .255$. See Table 20 for the final model's summary of simultaneous multiple regression of self-efficacy.

Table 20

Final Model's Summary[b] of Simultaneous Multiple Regression of Self-efficacy

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics				
					R^2 Change	F Change	df1	df2	Sig. F Change
1	.505[a]	.255	.252	2.534	.255	84.44	7	1731	.000

a. Predictors: (Constant) Gender, PPVT score, Caregiver's pride, Parent relations, Peer relations, School enrolment, WI
b. Dependent Variable: Self-efficacy

Peer relations (beta = .42, $p < .001$) was most highly correlated with self-efficacy, followed by parent relations (beta = .09, $p < .001$), and school enrolment (beta = .09, $p < .001$). PPVT score (beta = -.07, $p = .002$), household WI (beta = .05, $p = .014$), caregiver's pride (beta = .05, $p = .013$), and gender (beta = -.05, $p = .019$), also made significant unique contributions. See Table 21 for the final model coefficients of simultaneous multiple regression of self-efficacy.

Table 21

Final Model's Coefficients[a] of Simultaneous Multiple Regression of Self-efficacy

Model		Unstandardised Coefficients		Std. Coefs			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	14.20	.97		14.67	.000	12.30	16.10
	Gender	-.29	.12	-.05	-2.35	.019	-.53	-.05
	PPVT score	-.60	.20	-.07	-3.09	.002	-.99	-.22
	Caregiver's pride	.09	.04	.05	2.48	.013	.02	.15
	Parent relations	.09	.02	.09	4.00	.000	.05	.14
	Peer relations	.50	.03	.42	19.37	.000	.45	.55
	School enrolment	.90	.23	.09	3.97	.000	.46	1.35
	WI	1.01	0.41	.05	2.46	.014	.21	1.82

Note. PPVT = Peabody Picture Vocabulary Test
a. Dependent Variable: Self-efficacy

6.4.4 Summary of the significant variables

Different variables across the levels of the ESM were significantly associated with subjective well-being, self-esteem and self-efficacy among the study sample. See Table 22 for a summary of the significant variables, based on hierarchical multiple regression analysis.

Table 22

The Significant Variables Associated with Subjective Well-being, Self-esteem and Self-efficacy at the 5% level (P < 0.05) based on Hierarchical Multiple Regression Analysis

Well-being		Self-Esteem		Self-Efficacy	
CG's well-being	*Micro*	Peer relations	*Micro*	Peer relations	*Micro*
Subjectively poor	*Macro*	Parent relations	*Micro*	Parent relations	*Micro*
State	*Macro*	State	*Macro*	School enrolment	*Exo*
PPVT	*Individual*	CG's pride	*Micro*	PPVT	*Individual*
Parent relations	*Micro*	CG's agency	*Micro*	WI	*Macro*
School enrolment	*Exo*	CG's well-being	*Micro*	CG's pride	*Micro*
				Gender	*Individual*

Note. PPVT = Peabody Picture Vocabulary Test, CG= Caregiver

7. Discussion

7.1 Evaluation of Research Questions

The overarching objective of this thesis was to analyse data from an established dataset to explore the relationship between some individual and social-ecological factors and the subjective well-being, self-esteem and self-efficacy, of 15-year-old adolescents in Andhra Pradesh and Telangana, India. Hierarchical multiple regression analysis was used to produce models accounting for the best available variance in subjective well-being, self-esteem and self-efficacy, given the limits of available variables. There is evidence that different personal and environmental factors are related to positive adolescent outcomes in India. Various factors at the individual, micro, exo and macro levels were significant in the final regression models for subjective well-being and self-efficacy. Most microsystem factors were significant in the final self-esteem model, as well as state of residence at the macro level. Height-for-age at 5 years old, included at the chronosystem level, was not significant for any of the dependent variables. Some variables, including parental relations, were significantly associated with all outcomes, while other variables, including ethnic group and caregiver's education level, showed inconsistent or no association in this sample.

This chapter discusses the aforementioned results in relation to ecological systems theory (Bronfenbrenner, 1979, 1986), established literature and the health promotion field. Each of the research questions is addressed in turn, and the three dependent variables are discussed collectively to facilitate effective examination and comparison. The microsystem is central to this thesis and subsequently, these variables are reviewed first. After this, the other levels of the ESM and their corresponding variables are discussed consecutively (the individual, the exosystem, the macrosystem and the chronosystem).

1. What microsystem factors, out of caregiver characteristics, parent relations and peer relations, are associated with the subjective well-being, self-esteem and self-efficacy of 15-year-old Indian adolescents?

7.1.1 Microsystem factors

According to Bronfenbrenner (1979), at the microsystem level, adolescent development is influenced by various social relations, including interactions with one's immediate family, and informal social networks (McLeroy et al., 1988). This level is closest to the individual and is thought to contain the strongest impacts (Kilanowski, 2017; Smokowski et al., 2014).

Subsequently, this thesis sought to examine the associations between microsystem factors, including caregiver characteristics, parent relations and peer relations, and the subjective well-being, self-esteem and self-efficacy of the adolescent sample. Specifically, it hoped to uncover any direct relationships between supportive proximal factors, such as having a caregiver with high pride or agency, and positive peer relationships, and these outcomes.

In the initial hierarchical multiple regressions, the addition of the various microsystem factors (caregiver's level of education, caregiver's subjective well-being, caregiver's pride, caregiver's agency, parent relations, and peer relations) had a great impact on explaining the variance in subjective well-being, self-esteem and self-efficacy. The micro-level factors collectively explained 21.6% of the variance in subjective well-being, 37.9% of the variance in self-esteem and 23.3% of the variance in self-efficacy. Within this level, some of the microsystem variables were more significantly correlated with the outcomes of interest than others. Some showed inconsistent or no association in the study sample.

7.1.1.1 Caregiver's subjective well-being

As Wold (2012) suggested, parents are the main socialising agents of children and young people. Caregivers may positively and negatively impact the health and well-being of those they tend to. Caregiver subjective well-being was highly correlated with adolescent subjective well-being in the study sample. The positive association found is consistent with previous research which has identified connections between the mental, social and emotional well-being of caregivers' and their children (Thomas & Joseph, 2013; UNHCR, 2001; Žukauskienė, 2014). For example, Giannakopoulos et al. (2009), found a positive correlation between parental subjective mental health, and adolescent well-being in their Greek sample.

In this thesis, caregiver's subjective well-being was also a significant correlate of self-esteem. However, the relationship was inverse, suggesting that having a caregiver with high subjective well-being might be negatively related to the self-esteem of Indian adolescents. This result is not consistent with past literature (Thomas & Joseph, 2013; UNHCR, 2001). Further research could be done to better understand the relationship between their caregivers' subjective well-being, and self-esteem among Indian adolescents. Perhaps, having a caregiver with high subjective well-being leads to lower feelings of self-worth for adolescents in India. A possible explanation may be related to the hierarchical structure of Indian families, in which elders have more power (Albert et al., 2009; Isaac et al., 2014; Schwarz et al., 2012). Caregivers who rate their well-being highly may have adolescents who feel undervalued,

especially if they do not feel positive about their own position in this hierarchy. An adolescent's self-esteem may come at the expense of their caregivers' subjective well-being. The reverse may also be true. Regardless, the association was weak. There was no significant correlation between caregiver's subjective well-being and self-efficacy in the study sample.

The association between caregiver's subjective well-being and adolescent's subjective well-being is positive and strong. This is in line with Bronfenbrenner's ecological theory which highlights the importance of productive proximal processes for supporting positive adolescent development (Rosa & Tudge, 2013). Given this observed correlation, household-based interventions which address the experiences and perceptions of both adolescents and their caregivers may be highly valuable in India. As Thomas and Joseph (2013) suggested in their discussion of positive youth development and the role of family interventions, strengthened caregivers and a supported family can promote productive and constructive adolescent outcomes (Aufseeser et al., 2006).

7.1.1.2 Caregiver's psychosocial skills: pride and agency

While caregiver's subjective well-being was a strong predictor of subjective well-being in the study sample, neither caregiver's pride nor caregiver's agency was associated with subjective well-being. They were, however, significant predictors in the self-esteem model. Caregiver's pride emerged as a significant predictor in the final self-efficacy model too. These results are not surprising because time again, the literature has linked the psychosocial skills of parents and caregivers to those of the children and adolescents they care for (Ayala-Nunes et al., 2018; Inchley et al., 2016; Thomas & Joseph, 2013).

There is an established association between the developing person and actors in their immediate environment at the microsystem level (Bronfenbrenner, 1979), and caregivers' competencies have emerged as important factors for shaping adolescents' capabilities. Mothers' self-esteem, for example, has been found to predict the self-esteem of their offspring in mid-childhood and early adolescence (Thomas & Joseph, 2013). In this sample, having a caregiver who felt proud of their life and family, and in control of their situation was positively associated with adolescent self-esteem. Stinnet and De Frain (1985) suggested that there are three types of strengths in the family environment that support the positive development of adolescents. These are emotional strengths, behavioural strengths and passive parenting strengths. One of these categories is particularly relevant here; passive parenting strengths, including positive parental role modelling (Stinnett & DeFrain, 1985). Parents who

show pride and illustrate agency, are more likely to have adolescents who possess these same qualities (Thomas & Joseph, 2013).

Interestingly though, it was caregiver's pride and not agency which emerged as a significant factor for self-efficacy in this sample. Agency is a measure of control and mastery, similar to self-efficacy, while pride is more closely related to self-esteem (Yorke & Portela, 2018). In their longitudinal study of adolescents in Rome, Bandura et al. (2001) found an association between parents' self-efficacy and aspirations and their children's perceived efficacy with regards to career selection. This is in line with Ayala-Nunes et al. (2017) who reported that parents with higher self-efficacy and lower anxiety, also have children with lower anxiety.

Dissimilarly, in this sample, caregiver's agency did not emerge as a significant predictor of self-efficacy. It is possible that elders' feelings and displays of pride are simply more important than their apparent agency for the mental fortitude of Indian adolescents. Strong interdependence and tight family relationships are characteristic in India, and children have extended obligations and duties to their parents (Albert et al., 2009; Isaac et al., 2014). When comparing the parenting practices of Indian and German mothers, for example, Albert et al. (2007) found that Indian mothers scored lower on acceptance and higher on control than their German counterparts. In addition, in a cross-cultural study, including India, a relationship was found between adolescent life satisfaction and perceived admiration from parents (Schwarz et al., 2012). Subsequently, it is not surprising that adolescents with caregivers who are proud of their lives and children also have higher feelings of self-efficacy. Regardless, the relationship between their caregivers' pride and agency and Indian adolescents' self-efficacy could be explored further.

Furthermore, for adolescents who grow up in deprivation, the impacts of poverty on their psychosocial health may be indirect, mediated by its effect on their caregivers (Ayala-Nunes et al., 2018; Mcloyd, 1990; Sobowale & Ross, 2018; Žukauskienė, 2014). Psychological distress is considered a core conduit through which financial and material hardship affect parenting behaviours (Ayala-Nunes et al., 2018). Children and adolescents may experience the negative consequences of poverty through the low psychosocial skills and constrained caregiving capabilities of their parents and caregivers (Mcloyd, 1990; Sobowale & Ross, 2018). As Bronfenbrenner (1979) suggested, the ability of parents to perform their child-rearing roles effectively can depend on external stressors. Greater attention is needed to understand how much this trickle-down effect is associated with the subjective health and

well-being of adolescents. Nevertheless, this thesis shows that adolescents' psychosocial skills might be associated with those of their caregivers. Subsequently, health promoters may find particular success in interventions which focus on building the capacity of both adolescents and their caregivers concurrently (Thomas & Joseph, 2013).

7.1.1.3 Caregiver's education level

Caregiver's education level (in terms of years of formal education completed) was one variable which was expected to be associated with the outcomes of interest. Some of the most marked inequalities among the Young Lives children are related to levels of parental education (Woodhead et al., 2014). Caregiver's education and participation at school, for example, have been linked to psychosocial skills in childhood (Dercon & Krishnan, 2009), and adolescence (Himaz, 2018). Parental literacy has emerged as a supportive factor for both child and adolescent development (Bista et al., 2016; Rajachar & Gupta, 2017).

No or inconsistent association was seen between caregiver's education level and the dependent variables in this study. In this sample, caregiver's education level was not related to subjective well-being. With regards to self-esteem and self-efficacy, the results were highly irregular. This could be related to the uneven distribution of the variable across the education level categories. Almost 50% of the adolescents' caregivers had no formal education and only 6% had completed 11 or more years. Caregiver's years of education did little to aid the explanation of variance in either of the psychosocial skills. Ultimately, this variable was not retained for further analysis.

Caregiver's years of education completed was included as a proxy for their level of cognitive competence, due to its availability in the dataset. It was assumed that parents who had more years of formal education were more learned than those who had less. However, some analysts have suggested that we should be cautious about overstating the positive linkages between measures of caregiver education and child health outcomes. Maternal education, for example, may merely be a proxy for socioeconomic status, and may not be reflective of a mother's actual cognitive skills (Lyytikäinen et al., 2006). Further, years of education does not capture education quality or effectiveness, and the cognitive skills or lack thereof acquired. There might be more appropriate variables to study that better represent caregivers' intellectual abilities than how many years they have spent, or not spent, attending formal education (Bista et al., 2016; Rajachar & Gupta, 2017). In the literature, there are other measures of cognitive competence than years of schooling completed which are used. For

example, one's literacy level. A variable such as their caregiver's literacy level might be correlated with higher subjective well-being and psychosocial skills in a similar adolescent sample. The relationship between caregivers' cognitive capabilities and adolescents' cognitive and psychosocial skills, for example, could be an interesting topic for future research.

a. Are parent relations or peer relations more important for subjective well-being, self-esteem and self-efficacy among 15-year-old Indian adolescents?

7.1.1.4 Parent relations

Parent relations showed a consistently significant association with all dependent variables within the study sample. This supports the association between positive parenting practices and adolescent psychological and psychosocial functioning seen throughout the literature (B. Singh & Udainiya, 2009; Yorke & Portela, 2018). According to Bronfenbrenner (Rosa & Tudge, 2013) and researchers within the positive youth development field (Bowers, Johnson, Warren, Tirrell, & Lerner, 2015) relations with dedicated and considerate adults are among the most supportive assets for adolescents. Adolescence can be a tumultuous period for many young people and during this stage of life, close, stable relationships with adult role models are often highly beneficial (Aufseeser et al., 2006; Thomas & Joseph, 2013).

Parent communication has been found to strengthen well-being, self-esteem, and self-efficacy (Currie et al., 2012; B. Singh & Udainiya, 2009). Research has also shown that feeling loved and cared for may promote well-being, and protect against psychological distress among young people (Glozah, 2015; Hair et al., 2005; Smokowski et al., 2014). This is particularly relevant in a collectivist society like India, where strong family ties are highly significant (Albert et al., 2009; Isaac et al., 2014). For example, in their multi-national study of 11 countries, including India, Schwarz et al. (2012) found a positive association between parental admiration and adolescent life satisfaction, independent of culture. The results of this thesis are consistent with this literature base and provide further evidence that positive parent relations are associated with positive adolescent outcomes.

The other two categories of strengths outlined by Stinnet and De Frain (1985) are applicable here; emotional strengths, such as having considerate and attentive parents, and behavioural strengths, including parental involvement and supervision. According to Stinnet and De Frain (1985), having satisfying parent-child relationships is central to building strong families which can facilitate positive outcomes for adolescents. This reinforces the importance of the family as a primary focus for promoting the subjective well-being and psychosocial skills of

adolescents (Bronfenbrenner, 1986). Family interventions have been found to be particularly useful for encouraging positive adolescent development. Instead of creating parallel support systems, a family-focused approach to health promotion strengthens the existing network. Family interventions which focus on strengthening parent-adolescent relationships and building the capacity of caregivers may be valuable initiatives (Thomas & Joseph, 2013).

7.1.1.5 Peer relations

The family is an important location of socialisation, but peer relations are also significant for adolescents (Currie et al., 2012; Franco & Levitt, 1998). According to Bronfenbrenner (1977) interactions with one's peer group are vital to adolescent development at the microsystem level. While parent relations were clearly important for this sample, peer relations were also positively related to self-esteem and self-efficacy, but not subjective well-being. These results are consistent with past literature which addresses the importance of strong social sustenance for adolescents' psychosocial skills (Calmeiro et al., 2018; Currie et al., 2012). In particular, they are in line with emerging works which emphasise the specific and growing role of peer group membership for adolescents (Rubin et al., 2007; Schwarz et al., 2012; Smokowski et al., 2014). While the family has traditionally been at the centre of life in India, peer culture is becoming increasing prominent (Khanna & Singh, 2015). During early adolescence, the limits of the family sphere begin to fragment, and friendships become more meaningful (Franco & Levitt, 1998). India's adolescents are beginning to look to their peers for greater social support and acceptance, and experiences in the wider social sphere seem to be having a burgeoning impact on psychosocial skills and perceived well-being (Ramadass et al., 2017).

The results of this study are in line with Smokowski et al. (2014) who found that American students who reported high levels of friend support also reported high self-esteem. Also, Khanna and Singh (2015) who linked peer acceptance to Indian adolescents' perceived life satisfaction. Associations have also been found between peer friendships and perceived well-being (Inchley et al., 2016), but no such relationship was found within the study sample. Nevertheless, there is evidence that peers are important agents of socialisation for young people in India, and positive peer relations may be related to positive youth outcomes (Turner, 1999). While it has been assumed that peers are not very important for adolescents in family-centric countries like India (Pearson & Child, 2007; Verma & Saraswathi, 2002), there is evidence that positive social relations outside of the family are influential (Khanna & Singh, 2015). Therefore, by utilising and building strong social networks, health promoters may help to facilitate higher subjective well-being and psychosocial skills among adolescents. Peer-led

initiatives could be used to target self-esteem and self-efficacy, but may also support these skills inherently by offering feelings of effectiveness, meaning and control (Turner, 1999).

Parent versus peer relations

Overall, peer relations and parent relations were both important within the study sample. While peer relations emerged as the most significant factor for self-esteem and self-efficacy, parent relations also had a large, significant impact in each case. Parent relations were also significant for subjective well-being, while peer relations were not. This result is consistent with Schwartz (2012) who found that while peer acceptance was positively related to life satisfaction in their cross-cultural study, the strength of this effect varied significantly across cultures. They attributed this variation to the culture-level endorsement of family values. Higher culture-level family values, such as those typical in India, were related to the lower importance of peer acceptance for adolescents' life satisfaction. In this study, there was a stronger association between peer relations and both self-esteem and self-efficacy than parent relations, consistent with literature which links positive peer relationships to psychosocial skills (Currie et al., 2012; Inchley et al., 2016; Rubin et al., 2007). It seems that peers are important for today's adolescents in India (Khanna & Singh, 2015), but the role of parents still remains (Pearson & Child, 2007).

In general, strong social support across different spheres appears protective for subjective well-being and psychosocial skills (Inchley et al., 2016). Both parent and peer relations are important factors and, as Witherspoon et al. (2009) suggested, the positive consequences of social support may be cumulative, with more social connections associated with better health outcomes. Furthermore, there might be a direct connection between parent and peer relations, with positive experiences in the home, for example, laying a foundation for better relationships with peers (Inchley et al., 2016). Alternatively, positive peer relations could buffer the negative effects of bad family relationships (Moreno et al., 2009). According to Bronfenbrenner (1977), for adolescents, important interactions at the mesosystem level include connections among the family and peer group. Events in one environment can influence development in another and investigating joint effects and relationships between settings may provide additional contextual information (Bronfenbrenner, 1977). As has been mentioned previously, the decision was made not to address the mesosystem in this thesis. Due to the relatively large number of independent variables which were included, assessing interactions would have stretched the limits of this report beyond their bounds. In the

following chapter, a recommendation is made to incorporate interaction terms, for example, parent relations*peer relations, in future research. Regardless, family context and peer context do seem to be independently associated with adolescent outcomes, and their individual significance should not be ignored (Moreno et al., 2009).

2. What other factors at the individual, exosystem, macrosystem and chronosystem levels help to explain the variation in subjective well-being, self-esteem and self-efficacy among 15-year-old Indian adolescents?

7.1.2 Individual factors

Overall, the individual-level factors (gender, ethnic group and PPVT score) were not highly significant correlates of subjective well-being, self-esteem and self-efficacy. In the initial hierarchical multiple regressions, the individual socio-demographic variables explained little of the variation in each dependent variable. While ecological theory is most concerned with the importance of multiple environments for human development, it still acknowledges the role of individual characteristics (Bronfenbrenner, 1975). In some versions of the ESM, less attention was paid to individual characteristics specifically. More attention was placed on understanding proximal processes and the way in which an individual interacts with other actors and exterior forces, especially at the micro level (Rosa & Tudge, 2013). While individual-level characteristics are important in the ESM, it is not surprising that their impact was less significant than other social and environmental factors in this study.

7.1.2.1 Gender

Based on previous research, gender was one variable which was expected to potentially be associated with subjective well-being, self-esteem and self-efficacy. Gender differences, across various health outcomes, are highly prevalent in the literature (Favara et al., 2018; Inchley et al., 2016; Kapungu & Petroni, 2017). Despite this, little or no association was seen in this sample and overall, there were no significant differences in the scores of male and female adolescents, across the three outcomes of interest. In the final models, gender emerged as a significant variable for self-efficacy in favour of males but was not significant for self-esteem or subjective well-being. Further, while gender did make a significant unique contribution to explaining the variation in self-efficacy, it was one of the correlates in the final model which had the smallest significant impact. These results are intriguing because gender differences have been found to appear more strongly in early and mid-adolescence, compared to earlier life (Räty et al., 2005; Woodhead et al., 2014; Žukauskienė, 2014). While gender

differences do not always favour males, overall, female gender has emerged in the literature as a negative predictor of psychological well-being (Giannakopoulos et al., 2009; Khanna & Singh, 2015; Moreno et al., 2009; Oskrochi et al., 2018; Smokowski et al., 2014).

In this thesis, there was no correlation between gender and subjective well-being, nor gender and self-esteem, despite cases in the literature showing otherwise, usually in favour of males (B. Singh & Udainiya, 2009; Smokowski et al., 2014). In this sample, gender was only significant in the self-efficacy model, in favour of males. This result is consistent with Himaz (2018) who found that being male positively impacted self-efficacy and agency among a sample of Indian adolescents. B. Singh and Udainiya (2009) also found that in their Indian sample, male adolescents had higher self-efficacy and subjective well-being than their female counterparts. Traditionally in India, sexism a pervasive daily reality (Bhat & Sharma, 2006; Siddiqui, 2015; Sumanjeet, 2017). As Siddiqui (2015) theorised, gender discrimination against women and girls may lead to inferiority complexes among Indian females and feelings of superiority among males, resulting in lower and higher self-efficacy respectively. In line with this, family restrictions which limit the independence and social mobility of young women may diminish their self-belief (B. Singh & Udainiya, 2009). Given the observed correlation between gender and self-efficacy in the study sample, the importance of helping female adolescents to improve feelings of mastery and control during adolescence is clear.

In addition, the potential impact of gender on subjective well-being and self-esteem should not be ignored as patterns of difference are evident in the literature (Giannakopoulos et al., 2009; Kapungu & Petroni, 2017). In this study's pro-poor sample the case could be that while gender inequality is an important daily reality, there are simply other factors which have greater significance for subjective well-being and psychosocial skills among this sample of Indian adolescents (Global Coalition to End Child Poverty, 2017; Morrow, 2017). Gender might have been more significant in a more representative sample. As Bronfenbrenner (1979) described, development across systems is impacted by individual characteristics, including gender. Addressing health from a gender perspective may help to reduce gender-based outcome discrepancies in adulthood (Inchley et al., 2016). Importantly though, as male and female adolescents may both be disadvantaged in different spheres and situations, promoting the rights and values of both young men and women remains essential (Global Coalition to End Child Poverty, 2017).

7.1.2.2 Ethnic group

In the literature, ethnicity has emerged as a significant moderator for psychological well-being and self-esteem in various adolescent samples (Roberts & Sobhan, 1992; Smokowski et al., 2014; Twenge & Nolen-Hoeksema, 2002). However, ethnic group was not retained for final analysis in any of the models. Ethnic group was not significantly associated with well-being, self-esteem or self-efficacy. This is consistent with Himaz (2018) who did not find ethnic group to have a significant impact on psychosocial outcomes in her sample of Indian youths.

India's 3000-year caste system is an enduring force of social stratification (Sedwal & Kamat, 2008). Subsequently, it is surprising that no significant relationship has been found between the ethnic group, and subjective health and well-being outcomes, of Indian adolescents. Again, the fact that Young Lives deliberately selected a pro-poor sample may be influential here (Morrow, 2017). There were only four caste categories in these data, three of which were lower castes (Scheduled Castes, Scheduled Tribes and Backwards Castes) (Young Lives, 2017). The Other Castes category is the only ethnic group which encompasses upper castes. In this study, only 20.3% of the sample were from Other Castes. This means that the vast majority were members of disadvantaged ethnic groups (Borooah, 2005). While Young Lives attempted to select study sites which reflected the heterogeneity of ethnicity and religion in the population, there is a possible bias towards lower castes (Morrow, 2017). This may mean that variation between ethnic groups is not as significant as it would be in a more representative sample. Caste-based discrimination is still pervasive in India (Sedwal & Kamat, 2008; Vennam & Komanduri, 2009), and further research into its potential role in shaping the experiences of young people is required.

In addition, there may be other alternative variables to study that are also modifiable. In their analysis of the ecological factors impacting symptoms of depression and self-esteem among adolescents in the United States, Smokowski et al. (2014) looked at both race and ethnic identity separately. While they found racial variation in self-esteem, they also found that reporting a high level of self-esteem was significantly greater for students who reported high levels of ethnic identity (compared to students who reported low levels). Strong ethnic identity, which "…refers to an individual's self-identification with a racial or ethnic group (e.g., culture, traditions, values) and the person's emotional responses to that group," was associated with positive psychological functioning (Smokowski et al., 2014). A strong ethnic identity can provide a sense of group membership and belonging, leading to better

psychological well-being and self-esteem (Corenblum & Armstrong, 2012; Street, Harris-Britt, & Walker-Barnes, 2009). It is possible that while no relationship has been found between Indian adolescents' ethnic groups and their well-being and psychosocial skills, ethnic identity may be a correlate. This could provide an interesting base for future research.

7.1.2.3 Cognitive skills

Cognitive skills, represented by the PPVT variable, was statistically significantly associated with well-being and self-efficacy, but not self-esteem, in the study sample. Nevertheless, the associations which were found are still consistent with the literature which suggests that cognitive skills may be positively related to psychosocial outcomes and well-being (Coneus et al., 2012; Sánchez, 2017). Research shows that high cognitive outcomes may be related to self-esteem, with individuals with higher PPVT scores, for example, also having better self-perceptions (Baumeister et al., 2003; Sánchez, 2017; Yorke & Portela, 2018). Dissimilarly, no evidence of this relationship was found in this sample. However, it was shown that cognitive competence is associated with higher subjective well-being and self-efficacy.

While in the literature, more focus has been placed on the role self-efficacy plays in fostering cognitive skills, the inverse might also be important. Better cognitive achievement may be associated with both self-belief and perceived well-being (Caroli & Sagone, 2014). By supporting adolescents to become more intellectually able, educators and other practitioners may also facilitate their perceived agency and sense of control. There is a gap in the adolescent health and development field of studies which consider how being cognitively able might help adolescents to develop more positive subjective well-being and psychosocial skills. Further, the development of cognitive skills and non-cognitive skills have been found to be reinforcing (Marsh & O'Mara, 2008; Sánchez, 2017; Yorke & Portela, 2018). This was not the focus of this thesis, but it is an important area which could be studied further. By increasing cognitive skills, we may also foster psychosocial competence and subjective well-being, and vice versa (Caroli & Sagone, 2014). The importance of addressing the two sets of skills in schools and health promoting programmes to encourage both mental aptitude and personal and social prowess is becoming clear.

7.1.3 Exosystem factor

7.1.3.1 School enrolment

The majority of the sample (88.2%) were enrolled in school with only 8.6% not enrolled. School enrolment was entered at the exosystem level, offering an extension to the micro-level proximal processes. In the initial models, the addition of school enrolment helped to explain some of the respective variances in subjective well-being and self-efficacy. It explained a further 0.6% in subjective well-being and an additional 0.7% in self-efficacy. School enrolment did not help to explain any further variance in self-esteem within the study sample.

In the final models, school enrolment status was a significant correlate for subjective well-being and self-efficacy. Being enrolled in school was associated with higher scores on both of these outcomes. Numerous studies have illustrated how experiences at school can both positively and negatively impact the subjective health and well-being of adolescents (Currie et al., 2012; Samdal & Torsheim, 2012; Sarkova et al., 2014). The importance of understanding school engagement from a positive youth development perspective has been emphasised (Li, 2011). For example, findings from the HBSC study have shown that students who believe their schools to be supportive have higher life satisfaction (Inchley et al., 2016). School connectedness was also found to increase subjective life satisfaction by Calmeiro, Camacho and de Matos (2018). This shows that positive interactions in the school environment may be valuable for the promotion of favourable health-related outcomes in adolescence.

On the other hand, negative experiences at school might lead to stress and poor mental health (Ford, 2018; Samdal & Torsheim, 2012). In this sample, the adolescents who were enrolled in a school rated their subjective well-being and self-efficacy higher than those who were not enrolled. Because self-efficacy refers to one's sense of agency and their belief in their ability to succeed in life, it is not surprising that being enrolled in school was related to higher levels of this psychosocial skill (Dercon & Singh, 2013; Lippman et al., 2014; Yorke & Portela, 2018). Interestingly though, while favourable school experiences have been positivity associated with adolescent self-esteem in several studies, school enrolment was not a significant correlate in this self-esteem model (Inchley et al., 2016; Sarkova et al., 2014).

Unlike studies which examine how adolescent's experiences at school and their feelings of school connectedness are associated with their health and well-being (Currie et al., 2012; Samdal & Torsheim, 2012; Sarkova et al., 2014; Sawyer et al., 2012), this thesis only looked

at school enrolment status. As was suggested in the literature review, while attending school may be a supportive factor, school attendance alone might not be enough due to variations across school environments (Witherspoon, Schotland, Way, & Hughes, 2009). While schools are widely assumed to offer development promoting aspects such as clear structure, physical and emotional safety and skill building opportunities (Li, 2011), these features may not be present or adequate in all cases. Schools are not always naturally protective places and can be a source of tension, anxiety and even fear (Ford, 2018; Samdal & Torsheim, 2012).

Furthermore, as Morrow and Wilson (2014) wrote, the post-MDG development agenda recognises that simply getting children enrolled in school does not necessarily guarantee better outcomes. They explained how improving the quality of schooling is essential in Andhra Pradesh and Telangana, including better infrastructure and teaching practices. There is also evidence that despite increased school enrolment in India, learning levels are actually declining (Morrow & Wilson, 2014). Young Lives India's 2017-18 classroom observation sub-study found that more advantaged children were taught by more effective teachers and more disadvantaged children were taught by less effective teachers (Grijalva, Moore, Reddy, Rolleston, & Singh, 2018). Issues with educational equity have been identified in India, and school enrolment does not seem to be inherently protective.

Interestingly, cognitive skills, measured using the PPVT, were also in the final models of subjective well-being and self-efficacy. Again, the PPVT score also did not emerge as a significant predictor of self-esteem. According to Chase, Warren and Lerner (2015), school engagement may lead to school success, and experiencing school success might promote greater school engagement. Both of these aspects may also encourage positive adolescent outcomes in other areas, including perceived well-being and psychosocial outcomes (Chase, Warren, & Lerner, 2015). While schools offer more than just cognitive support, the interaction between school enrolment and cognitive capabilities, and how this is related to subjective well-being and psychosocial outcomes could be investigated further.

7.1.4 Macrosystem factors

In the initial models, the addition of the macrosystem factors (household WI, coming from a subjectively poor household, area of residence and state of residence) had a greater impact on explaining variance in subjective well-being, compared to self-esteem and self-efficacy. While the macro-level variables explained an additional 6.0% of the variance in subjective well-being, they only explained an extra 0.3% and 0.4% of the variance in self-esteem and

self-efficacy respectively. Well-being is a broader construct than both self-esteem and self-efficacy. This may explain why it appears more susceptible to macroenvironmental factors than the narrower psychosocial constructs (Yorke & Portela, 2018).

7.1.4.1 Socioeconomic status

Household socioeconomic status, measured using the WI variable, was a significant predictor in the final self-efficacy model. Higher WI was associated with higher self-efficacy. In contrast, WI was not related to subjective well-being or self-esteem within the study sample. Overall, there is a social gradient where higher socioeconomic status is associated with greater stability, less stress, and higher well-being (Dolan et al., 2008; Frasquilho et al., 2017; Oskrochi et al., 2018). For example, using the first rounds of Young Lives data, Dercon and Krishnan (2009) found material status to be positively associated with measures of psychosocial competence, including both self-efficacy and self-esteem, across the four study countries. In this thesis, socioeconomic standing was positively associated with perceived self-efficacy, but not self-esteem. WI was also one of the variables in the self-efficacy model which showed the smallest significant impact within the study sample. Further, it is important to note that the relationship between wealth status and adolescent self-efficacy may be indirect, mediated by its effect on their parents. As has been said, economic poverty has been found to affect adolescents' mental health and well-being through its impact on their parents and other caregivers (Frasquilho et al., 2017; UNHCR, 2001; Žukauskienė, 2014). Both parent relations and caregiver's pride were significant factors in the self-efficacy model. Future research could consider the interaction between WI and caregivers' psychosocial skills, and how this might be related to the subjective well-being and psychosocial skills of the adolescents they care for.

In addition, while WI was not a significant predictor in the well-being model, being subjectively poor was. Adolescents who identified themselves as coming from a poor household had lower subjective well-being than those who did not. This variable showed the second largest significant impact on well-being in the final model. This means that for subjective well-being, the perception of household wealth may be more important than actual socioeconomic status. This relates to growing research which links income inequality to worse health and social outcomes (Pickett & Wilkinson, 2015). In their ecological cross-sectional study of child well-being and income inequality, Pickett and Wilkinson (2007) identified that overall, child well-being was negatively correlated with relative poverty and

income inequality, but not with average income. When considering the social processes through which children might be affected by inequality and relative poverty, they suggested that young people may be aware of growing status diversity in the wider society and make discriminatory social comparisons (Pickett & Wilkinson, 2007). They cited research showing that by the end of primary school, children are fully conscious of class differences and indicators. This supports the possible link between perceived deprivation and subjective well-being. In addition, while Pickett and Wilkinson (2007) looked at what they described as "rich," developed societies, India, a lower-middle-income economy, is facing a period of financial development and economic growth, which is actually aggravating the country's wealth gap (Morrow, 2013b). Income inequality is growing in India and capital is increasingly concentrated in the top echelons of society (Sehrawat & Giri, 2015). Any current connection between economic inequality and adolescent health outcomes in India may only continue to increase. Value could be gained from further research considering the relationship between relative poverty and life satisfaction.

7.1.4.2 Area of residence

Area of residence was an independent variable which was expected to be potentially related to the dependent variables. This is partly due to the urban-rural divide being cited as a source of inequality by Young Lives (Woodhead et al., 2014). Despite this, no association was seen in this sample. Living in an urban area or a rural area was not significantly related to subjective well-being, self-efficacy or self-esteem in the final models. There were no significant differences in the scores of those living urbanely, compared to those residing in rural areas. There are both benefits and drawbacks to rural and urban living respectively. Yet, overall, rural dwellers tend to experience more deprivation and less access to services, especially in developing countries (Lyytikäinen et al., 2006; Smokowski et al., 2014).

Often, multidimensional poverty is more concentrated and severe in rural locales. Smith et al. (2005) looked at 36 developing countries, including India, to investigate whether there were urban-rural differences in key determinants for child health and nutrition. They identified more favourable socioeconomic conditions in urban areas, leading to better-caring practices for children, and their mothers. In line with this, Rajachar and Gupta (2017) found that in their sample of Indian girls, those living in rural areas had a higher risk of developing psychological issues than their urban peers. In this sample, no such differences were found.

A possible limitation of the Young Lives dataset is that Young Lives purposively drew up pro-poor samples, and rural and urban locations were not equally represented in these data (Morrow, 2017; Young Lives, 2017). Almost 70% of this sample (n = 1382, 69.9%) lived in rural areas. Further, more disadvantaged locations were also oversampled in each region, meaning that many of the study sites in both urban and rural areas were deprived. Both rural and urban and regional weights within the Young Lives sample are not necessarily consistent with the true state-level population weights (Kumra, 2008). The rural-urban divide and the benefits which might be accrued from living in either area may not be adequately captured in these data (Aurino & Morrow, 2018). Significant differences in the subjective well-being and psychosocial skills of urban and rural Indian adolescents may be seen in a more representative sample.

7.1.4.3 State of residence

The state variable was a significant predictor of subjective well-being and self-esteem but was not associated with self-efficacy. Adolescents living in Telangana scored better on well-being and self-esteem, compared to those in Andhra Pradesh. This is an interesting result because generally, Andhra Pradesh, which includes the highly developed districts in Coastal Andhra, is thought to be more prosperous and industrialised than Telangana overall. In Telangana, poverty is more widespread (Aurino & Morrow, 2018). Furthermore, since the division of Old Andhra Pradesh in 2014, specific areas of Telangana have faced economic and educational disadvantage (Srikanth, 2013). Hyderabad, the shared capital city of the two states, is also located in Telangana. While Hyderabad is metropolitan and a centre for the IT industry, poor slum communities within the city were surveyed by Young Lives (Galab, Reddy, & Himaz, 2008). Subsequently, it is somewhat surprising that living in Telangana was positively related to subjective well-being and self-esteem. This is also inconsistent with Himaz (2018) who found that coming from Coastal Andhra and Rayalaseema in Andhra Pradesh exerted a positive impact on health-related outcomes, including self-esteem and self-efficacy compared to coming from Telangana. She used data from the Older Cohort, collected before Old Andhra Pradesh was divided in 2014.

There may be other differences between the two states which are not adequately captured in these data, and the role of state of residence in India on health and well-being warrants further research. Regional and sub-regional differences do exist in India (National Portal of India, n.d.), and further work is required to understand if and how these state-level variances may

shape the experiences of adolescents. While living in Telangana appears to be protective in this study's select sample for well-being and self-esteem, it is not known if it would be associated with higher rates of these outcomes in a more representative sample.

7.1.5 Chronosystem factor

7.1.5.1 Early childhood nutrition status

The chronosystem considers how past experiences may be related to present outcomes (Bronfenbrenner, 1986; Sawyer et al., 2012). In this thesis, the association between early childhood nutrition and subjective well-being, self-esteem and self-efficacy in adolescence was examined, alongside that of contemporaneous factors. In 2006, 28.7% of the sample were moderately stunted and 7% were severely stunted. At the opposite end, just short of 65% were not stunted. In the initial models, the addition of childhood nutrition status did not help to explain any further variance in subjective well-being or self-efficacy. It explained just 0.1% of the variance in self-esteem. Despite past literature suggesting that early nutritional status may be associated with adolescent well-being and psychosocial outcomes (Dercon & Sánchez, 2013; Dercon & Singh, 2013; Sánchez, 2017; Walker et al., 2007), height-for-age at 5 years old was not related to subjective well-being, self-esteem or self-efficacy in the study sample.

Interest in the long-term implications of early childhood stunting has increased (Benny, 2018). Several studies, including those referenced above, have linked better early childhood nutrition to lower rates of psychological disorder, and higher self-esteem and self-efficacy (Dercon & Sánchez, 2013; Walker et al., 2007). The lack of relationship in this sample might be related to the age of the participants. Most previous studies have linked early nutrition to outcomes at the age of 11-12 years. In this sample, the average age was 15 years. Subsequently, it is possible that the impact of early nutrition on psychosocial skills decreases in mid-adolescence. However, this theory is inconsistent with the literature's suggestion that sensitive periods for non-cognitive skills occur at later ages (Borghans et al., 2008).

Using data from Young Lives, Sánchez (2017) identified a much smaller effect of early nutrition on non-cognitive skills, compared to cognitive skills at 8 years old. He suggested early nutritional investments may be less important for the development of non-cognitive skills compared to cognitive skills. Consistent with Sánchez's (2017) supposition, this thesis found subjective well-being, self-esteem and self-efficacy to be more significantly associated with other factors, such as parent relations. Further, Sánchez suggested that the effect of early nutrition on non-cognitive skills is likely indirect, mediated by cognitive skills (Sánchez,

2017). The impact of early undernutrition on skills can be examined using the technology of skill formation model (Cunha & Heckman, 2007, 2008). This indicates that skills are self-reinforcing and cross-productive, influenced by parental investments. It is widely accepted that nutritional status affects cognitive ability, and based on the model, cognitive skills impact noncognitive skills. While there might be a direct association between malnutrition and psychosocial skills, it is possible that any effects occur through an indirect channel (Benny, Boyden, & Penny, 2018; Sánchez, 2017).

Furthermore, while emphasis has been placed on the first 1,000 days (from conception through the second year of life) as a critical window of opportunity for ensuring children have good health throughout life, new evidence is emerging that stunted children can undergo catch-up growth even after the age of 5 (Benny, 2018; Dornan & Georgiadis, 2015). Also, while some children recover from early stunting, others might lag behind, after initially experiencing normal rates of growth (Georgiadis & Penny, 2017). Catch-up growth has been associated with developmental gains, suggesting that later investments could help to mediate early shortfalls (Crookston, Forste, McClellan, Georgiadis, & Heaton, 2014). Improvements in children's nutritional status may also affect other aspects of their lives. Also, in her study, Himaz (2018) found that becoming stunted during adolescence (between ages 12 and 19) was strongly correlated with lower self-efficacy compared to the group that was never stunted. This might be due to the relative height hypothesis. For example, the children who became stunted in adolescence may have been teased more by their peers and had less time to establish effective coping strategies compared to those persistently stunted.

The nature of catch-up growth and the role of stunting in adolescence were not considered in this study, and height-for-age in adolescence was not included. Arguments are arising that adolescence presents a period of opportunity for catch-up growth (Georgiadis & Penny, 2017). Future research could look at the significance of catch-up growth and how changes in nutrition status, as well as early stunting, may individually be related to adolescent health and well-being. Catch-up growth is possible and might be associated with positive adolescent outcomes. What seems clear, is that in order to reduce the effects of under-nutrition, both early and sustained action is needed (Benny et al., 2018).

7.2 Overall Assessment and Reflection

The importance of acknowledging and addressing young people's needs and rights is encompassed in the 2030 Agenda for Sustainable Development (United Nations, 2015b). In India, where the adolescent population is substantial and growing, and mental distress, poverty and inequality are prevalent among young people, research and interventions which place adolescents at the centre are sorely needed (Maliye & Garg, 2017; Vranda, 2015). The results of this thesis make a relevant contribution to the limited literature on the positive health and development of Indian adolescents.

The third SDG is to "ensure healthy lives and promote well-being of all at all ages" (United Nations, 2015b, p. 18). Beyond this, as Maliye and Garg (2017) suggested, investment in adolescent health is vital to achieving all the 17 Global Goals and their associated targets. Other goals including reaching gender equity, ensuring inclusive and equitable access to education, eradicating poverty and reducing inequality are all relevant for our young people. Furthermore, each is related to adolescent development, health, and well-being to some extent, and is in line with the significant factors explored in this thesis. There are notable benefits to having high subjective well-being (Thomas & Joseph, 2013), self-esteem and self-efficacy (Siddiqui, 2015; Žukauskienė, 2014), in adolescence, and the beliefs and skills accrued in this period often persist into adulthood (Currie et al., 2012).

Positive youth development scholars attest that all young people possess strengths and that the contexts surrounding these young people can provide them with resources (Bowers et al., 2015). This thesis has highlighted relationships between individual, family, school and community characteristics and the subjective well-being, and psychosocial functioning of adolescents in India. The importance of an ecological approach to research and practice has been exhibited. Overall, favourable relational factors, school enrolment and cognitive skills were all positively associated with high subjective well-being, self-esteem and self-efficacy among this sample of Indian adolescents. Interventions aiming to foster these positive health-related outcomes should not only address individual characteristics but should also concentrate on wider environmental factors. Skilled, and adolescents are a force for positive change (United Nations, 2018). Through inclusive, informed and targeted programmes and policies there is potential to promote healthy adolescent development, in India and contribute to the country's sustainable progress. The following chapter offers some suggestions on how the insights gleaned from this research could be used for research and practice.

7.3 Limitations and Strengths

This study should be interpreted in light of some limitations. There are shortcomings with the sample, variables, and analytical approach used, and some of these are addressed below. Nevertheless, there are also several strengths and positive aspects which are discussed too.

7.3.1 Limitations

7.3.1.1 Generalisability

The non-representative sample used limits the generalisability of this thesis' findings. The study sample is not nationally- or state-representative. The data focused on two states in South India (Aurino & Morrow, 2018) and because the Young Lives sampling approach was pro-poor, the results cannot even be extended to the whole of Andhra Pradesh and Telangana (Morrow, 2017). Urban and rural locales and different ethnic groups are not equally represented (Kumra, 2008). Nevertheless, according to Sánchez (2017) the samples have been found to broadly reflect the diversity of children and living conditions in each country. Furthermore, Young Lives data and subsequently this thesis, provide valuable information about underprivileged adolescents growing up in poverty, in a developing country (Morrow, 2017). Considering this, this study's pro-poor sample can also be viewed as a strength. While these results may not be generalisable, they offer useful insights about factors which are significant for disadvantaged Indian adolescents, in states like Andhra Pradesh and Telangana. India's poor are confronted with notable daily challenges (R. Singh et al., 2018) and those living in poverty are obvious targets for health promotion interventions. In this sense, having information about significant correlates among a pro-poor sample may be just as beneficial as having more generalisable results.

7.3.1.2 Social desirability bias

Data which is collected by self-report can be affected by biases (Eisenberg, Olson, Neumark-Sztainer, Story, & Bearinger, 2004). Social desirability is the tendency to respond to questions in a manner which is socially acceptable. This response bias occurs mainly for questions which deal with material of a personal or socially sensitive nature (Spector, 2004). While anonymity and confidentiality were guaranteed for all Young Lives' participants (Morrow, 2013a), and the reliability and validity of the scales have been measured (Yorke & Portela, 2018), social desirability bias may still be present. For example, because India is a collectivist society with strong social ties (Isaac et al., 2014) and parental attachment (Albert et al., 2009; Pearson & Child, 2007), questions about parental relations may have been susceptible to bias.

7.3.1.3 Secondary data: issues with the independent variables

This thesis used secondary data from a large-scale study. A vast amount of information is provided by Young Lives, but the data was not collected with this study's specific research questions in mind (Kiecolt & Nathan, 1985). This means that there are some variables that may have been defined or measured differently if primary data collection had been performed.

Ethnic group: There might be alternative ethnicity related variables to study which may be more meaningful for adolescents. However, such variables were not available in this dataset. It has been asserted that ethnic identity is crucial for the self-concept of individuals (Martinez & Dukes, 1997), and might serve as a psychological resource for adolescents (Smokowski et al., 2014). Developing an understanding of ethnic identity could have benefited this thesis.

Caregiver's education level: Caregiver's years of education completed was used as a proxy for cognitive skills. It is acknowledged that the time one spends in formal education may not be representative of actual attendance or involvement and does not indicate anything of school or teaching quality. Other cognitive skill scales, such as literacy or numeracy levels, may have been more valuable measures.

School enrolment: While it has been shown that attending school may be related to adolescent health and well-being, there might be more appropriate variables to study than school enrolment status. It is necessary for health promoters to understand how organisational characteristics can be used to encourage positive health-related outcomes. Future studies could benefit from information about school experiences, quality and effectiveness.

7.3.1.4 Measurement levels

For this thesis, the Young Lives child and household surveys were utilised to provide information on sociodemographic variables, family situations and broad macro-level differences. Some variables were included across the different environmental levels to provide a broad overview of adolescent experiences in India, focusing on the micro level. This meant that only three macro-level variables were incorporated. More detailed information about the adolescents' communities could have been gained by utilising data from the community questionnaire, which includes sections on the local economy and access to facilities and services (Barnett et al., 2013). The application of the ESM was not perfect in this case and more comprehensive analysis of various exo-level and macro-level characteristics could have been included.

7.3.1.5 Methodological limitations

The cross-sectional approach adopted means that these results do not imply a causal relationship between the various individual and social-ecological factors and the subjective well-being and psychosocial skills of Indian adolescents (Dercon & Krishnan, 2009). A cross-sectional design has however allowed the strength and direction of different relationships to be determined, and this thesis has offered an in-depth discussion as to why these relationships may be present (Bethlehem, 1999). Also, the drivers of positive outcomes over time were not considered. This thesis could have benefited from a longitudinal design. Further, interactions between the independent variables and the way in which factors in one sphere may be related to those in another were not considered. Suggestions for how these limitations could be addressed in future research are provided in the next chapter.

7.3.2 Strengths

7.3.2.1 Underresearched topic and context

While it is widely agreed that there are many benefits to high subjective well-being and psychosocial competence, research on the psychosocial skills of individuals in developing countries is in its infancy (Yorke & Portela, 2018). Further, despite this cohort's large size and potential, research on adolescents is inadequate (Sivagurunathan et al., 2015). Specifically, there are also notable gaps in adolescent health research and programmes in India (Khanna & Singh, 2015; Srivastava, 2016). A strength of this thesis is that it focused on a context, an age group and several outcomes which have been insufficiently researched. The potential of the adolescent period and our global adolescent population are gaining evermore interest in the global development field, and more studies of this nature are needed.

7.3.2.2 Use of validated measures

While there has been limited research on factors associated with the psychosocial skills of individuals in developing countries, Young Lives has performed extensive data collection on a range of psychosocial measures. The scales included are relevant, theoretically grounded and have demonstrated good reliability and validity (Yorke & Portela, 2018). The general self-efficacy scale in Schwarzer and Jerusalem (1995) was created specifically with adolescents in mind and has been adapted to many countries, including India. Its reliability and unidimensionality have been confirmed by numerous studies. Also, the general self-esteem scale, which is based on the multidimensional structure in Shavelson et al. (1976), is considered to be one of the most validated self-concept measures available. Further, the

Ladder of Life Question (Cantril's Ladder) has been used extensively in many countries and contexts and is an established measure of well-being (Yorke & Portela, 2018).

7.3.2.3 Measurement of positive aspects

For decades, understandings of child and adolescent health were dominated by the investigation, prevention and termination of deficit and disease (Benson et al., 2007). However, many positive youth development scholars are calling for more constructive research which focuses on understanding and promoting the capacity of young people. In particular, psychosocial skills are regarded as building blocks of healthy development, which should be understood and nurtured (Dercon & Krishnan, 2009). This study took a strength-based view and responded to the growing demand for research which highlights opportunities for facilitating better and stronger youth outcomes (Lerner, Lerner, & Benson, 2011).

7.3.2.4 A base for future research

While one of the main disadvantages of this thesis is that it was cross-sectional and correlational, meaning that causality cannot be inferred from it, it does provide a useful base for future research (Ruane, 2016). This exploratory study sheds light on some of the factors associated with the subjective well-being and psychosocial skills of Indian adolescents and may provide a starting point for causational studies, and in-depth qualitative investigation. Possible research avenues, as well as the practical implications of this research, are described in greater detail in the following chapter.

8. Recommendations and Conclusion

Building on existing research, this thesis may be used to guide further studies and encourage the introduction of more appropriate and effective youth-centred health promotion programmes in India.

8.1 Recommendations for Future Research

8.1.1 Longitudinal design

The use of longitudinal samples is limited in the youth development literature, and more nonlinear theory and analytic strategies are needed (Lerner, Lerner, De Stefanis, & Apfel, 2001). Young Lives' data from Round 5 were used to assess psychosocial indicators in this thesis, rather than previous rounds. This decision was made because the quality of the scales applied was better in this round (Yorke & Portela, 2018). While these scales were useful, the possibility of a longitudinal design was restricted. Future research could utilise the longitudinal nature of the Young Lives data, or follow up with additional surveys in adulthood, to glean greater information about youth health and development. Specifically, how various factors are associated with subjective well-being, self-esteem and self-efficacy throughout the adolescent period, and into adulthood. A careful analysis of individual, family, social and community characteristics across various years in India may illustrate patterns of development, and positive implications over time.

8.1.2 Interaction effects

Ecological theory suggests that the nested systems which influence development are interdependent (Bronfenbrenner, 1979). Their influence is interactive, with factors at the microsystem level being shaped by macro-level elements, for example. There is relatively little in the literature about the interconnection of the resources experienced by young people. Studies which focus on multiple variables across different levels, and their interactions, are needed (Benson et al., 2007). Future research could respond to this gap in a way that this thesis did not. For example, future regression analyses could use an interaction term to look at how parent and peer relations interact and how this is associated with subjective well-being, self-esteem and self-efficacy in adolescence.

8.1.3 An ecological approach

Overall, the literature measuring developmental resources in adolescence is dominated by methods which focus on isolated variables (Benson et al., 2007). While the ESM was not

utilised to its greatest capacity here, this study did illustrate the value of an ecological approach. Attention was drawn to several factors across different environments which may be associated with the subjective well-being and psychosocial skills of adolescents in India. Subsequent studies endeavouring to understand how these, and other positive health-related outcome are related to social determinants, could benefit from an ecological approach. The ESM encourages researchers to look beyond the individual and explore health promoting factors at every level (Max, Sedivy, & Garrido, 2015). Ecological theory is becoming integral to the adolescent health promotion research field. There is great potential in understanding the multifaceted factors that are associated with positive youth outcomes (Wold & Mittelmark, 2018).

8.1.4 Qualitative research

Quantitative research is often used as a starting point for qualitative studies (Ryan, 2006). A qualitative follow up study may enable a more in-depth understanding of the nuances behind the numbers (Barnett et al., 2013) and by combining quantitative and qualitative data, a richer picture of adolescents in India could be depicted (Crivello & Wilson, 2016). Overall, few studies in India have employed qualitative methods to explore children's descriptions of their daily experiences and how these may support their well-being (Aurino & Morrow, 2018). Greater attention could be paid to understanding the subjective strengths of Indian adolescents and their communities, what matters to them, and how they use these assets to improve their subjective well-being and support their psychosocial functioning. Insights might also be gained into why some of the variables performed as they did in this thesis. For example, the issues of gender, ethnicity and ethnic identity could be explored in greater detail.

8.2 Practical Implications

There is evidence in the literature that ecological contexts can be changed to facilitate positive youth development (Benson et al., 2007) and interventions aimed at improving outcomes among poverty-stricken youth have had some success (Patel & Kleinman, 2003). Policies and programmes should be developed with the target population's specific characteristics in mind, and the insights gleaned here, though just a starting point, may be useful (Smith et al., 2005).

This study has drawn attention to both individual and social-environmental factors as possible targets for health promotion initiatives (McLeroy et al., 1988). As Mittelmark, Wold and Samdal (2012) suggested, interventions are most effective when they address multiple levels. Efforts to improve adolescent outcomes could benefit from a cross-cutting agenda, focusing

on adolescent health as a whole, rather than on isolated aspects (Sawyer et al., 2012). Some strategies for promoting subjective well-being, self-esteem and self-efficacy among Indian adolescents, are suggested. These include programmes and interventions targeting the home and family, community, peers and school. According to Bronfenbrenner (1979), these settings are important for development in adolescence, and the results of this study reinforce this.

8.2.1 Family interventions

Taking a family centred-approach may be useful, as the family is the primary environment of adolescents in India and presents a natural site for interventions and monitoring (Thomas & Joseph, 2013). Evidence suggests that involving parents is a vital component of successful interventions (Kautz et al., 2014). Instead of creating short-term, artificial, parallel support systems a family centred approach works to strengthen the existing, enduring support structure of adolescents (Thomas & Joseph, 2013). Family interventions for promoting positive adolescent outcomes are concerned with building the capacity of parents and other caregivers and offering parenting training and assistance (Thomas & Joseph, 2013; Viner & Macfarlane, 2005). Such interventions focus on the strengths and assets of parents and use these to build their competences (Lippold & Jensen, 2017). The results of this study indicate that programmes should focus on fostering positive caregiver characteristics, including pride, subjective well-being and agency, and the growth of quality parent-child relationships. For example, interventions that help parents to communicate more openly with their children may foster positive adolescent psychosocial skills (Bowers et al., 2015; Calmeiro et al., 2018).

8.2.2 Community leaders as role models

Positive adult-adolescent relations are clearly important. For adolescents in India who do not have supportive parents and caregivers, other community leaders may act as mentors and role models. Bowers et al. (2015) explained the significance of adult relationships for adolescents. They suggested that while these supportive relationships are often with parents, other adults encountered by adolescents in their day-to-day lives, called natural mentors, or formal mentors assigned through official schemes, might also benefit adolescents. In the absence of adequate social support from parents, interventions may target extended family members or other external figures who can provide necessary interactions and assistance (Franco & Levitt, 1998). For example, through mentorship programmes (Viner & Macfarlane, 2005). In a sample of young adults in North India, significant positive relationships were found between mentoring from teachers and positive psychological strengths and subjective well-being (A.

Khan, 2013). Mentor Me India is community-based mentorship model tailored to the Indian context. It is bringing together disadvantaged youths and dedicated guides and tutors with the goal of helping children in low-income groups to reach their full potential ("Mentor Me India," n.d.). Success has been seen and the programme is growing (Sinha, 2016).

8.2.3 Peer- and school-based interventions

The results of this thesis suggest that peer relations are significant for adolescents' self-esteem and self-efficacy in India. A sense of belonging may help to promote positive adolescent health outcomes. Having many opportunities for social participation is a notable community asset (Wold & Mittelmark, 2018). Adolescents should be provided with adequate possibilities to interact with peers in settings which are safe, structured and semi-supervised, in order to promote the establishment and maintenance of supportive networks (Inchley et al., 2016). As Wold and Mittelmark (2018) suggested, community groups organised around interests or social activities may be important assets for youth health and well-being. In these settings, young people are offered social support and capital, including bonding and linking, which may foster psychosocial skills and perceived well-being. At the organisational level, school interventions could be used to both build positive peer relations and promote health outcomes directly, by creating feelings of connectedness and belonging (McLeroy et al., 1988). Collaborative teaching methods, for example, could be encouraged (Inchley et al., 2016).

8.2.4 Other considerations

Outside of the microsystem, other factors may be targeted to promote positive functioning and flourishing. Interventions could address school enrolment and cognitive skills, for example, as these were associated with higher subjective well-being and psychosocial skill levels in this study. School connectedness is related to positive well-being (Calmeiro et al., 2018) and cognitive skills may support psychosocial outcomes. Further, having high self-esteem and self-efficacy may also encourage further cognitive development (Yorke & Portela, 2018). The results of this study also emphasise the importance of supporting children from more socioeconomically deprived households to build self-efficacy and show that fostering feelings of perceived prosperity may be influential for promoting subjective well-being, especially as inequality continues to rise in India . There is also evidence that both male and female adolescents, and those from different ethnic groups, require equal attention and assistance. When it comes to self-efficacy however, female adolescents may require additional attention to develop feelings of mastery and control in a patriarchal society (Sumanjeet, 2017).

8.3 Conclusion

“Investing in youth is an investment in our future” (United Nations, 2015a, p. 9). Adolescence is a time of great potential and has been hailed as a crucial window of opportunity. The 243 million adolescents who call India home are integral to its sustained and inclusive growth, and there is a need for research and interventions which focus on this cohort.

This thesis highlighted individual and social-ecological factors that are associated with subjective well-being, self-esteem and self-efficacy among 15-year-old adolescents in Andhra Pradesh and Telangana. The results of this thesis support the theory that positive adolescent development occurs across multiple milieus. Various relational factors were associated with the subjective well-being and psychosocial skills of the Indian adolescents in this study, and other aspects from the intimate to the expansive were also significant correlates. Adolescents who had caregivers with high subjective well-being were more likely to have high subjective well-being themselves, and those with positive peer and parent relations also reported higher self-esteem and self-efficacy. In particular, the findings of this study uphold the mounting literature base emphasising the importance of interpersonal connections and social resources for young peoples’ health and development (Youngblade et al., 2007).

Other characteristics across the levels of the ESM, including cognitive ability, caregiver’s psychosocial skills and socioeconomic status, were also significant. These findings offer meaningful insights for research and intervention efforts in India. Fostering caregiver competencies, developing strong parent-adolescent relations, facilitating meaningful and supportive peer connections and targeting adolescents of different genders, ethnic groups, deprivation levels, and geographic areas could help to cultivate a salutogenic environment and promote subjective well-being, self-esteem and self-efficacy among India’s adolescents.

India is home to the largest adolescent population in the world, and this cohort is growing. There are a significant opportunity and responsibility for those within the field of global development to assist India’s young people to develop into thriving adults, with positive perceptions and substantial skills. In order to realise the potential of this group, it is imperative to study and support the factors which are associated with positive health-related outcomes. India’s millions of adolescents represent the future of this country. With more mindful research and appropriate programmes, health promoters can help to make sure that adolescence does, in fact, become an age of opportunity in India.

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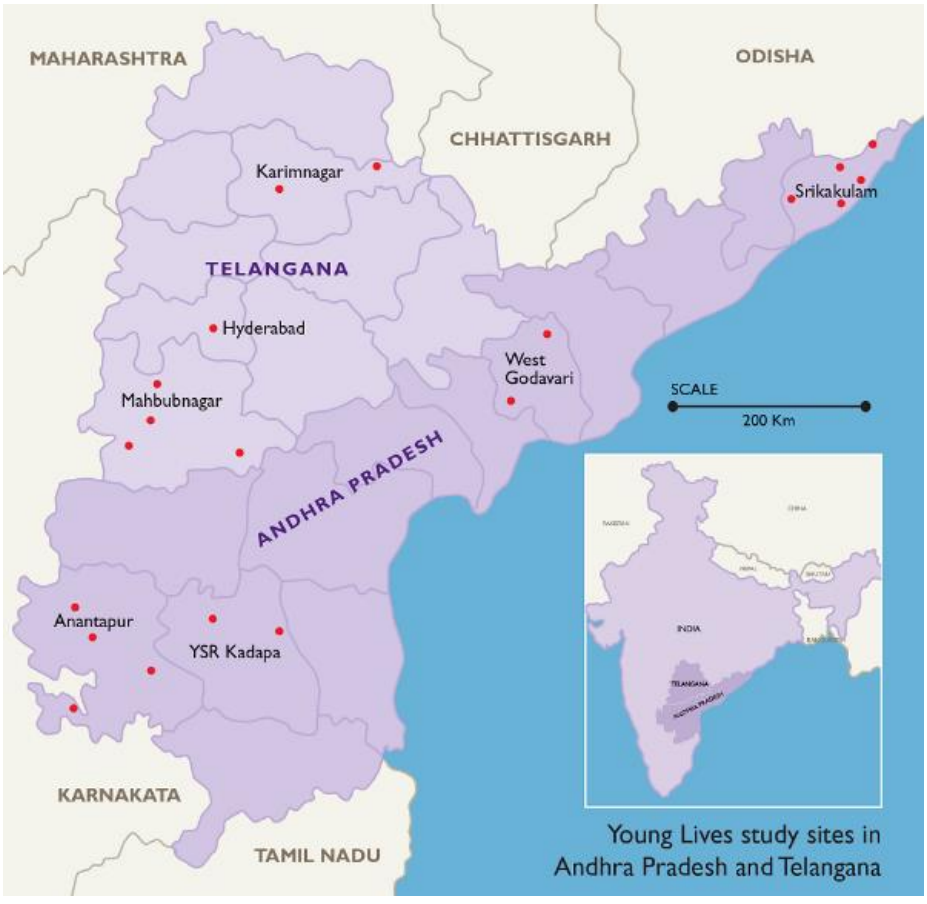
Appendices

Appendix A. Young Lives' Study Sites in India

The Young Lives study sites in India were selected in 2001 using a semi-purposive sampling approach. The districts were nominated first, then 20 sentinel sites (sub-districts) within these were chosen, based on an agreed set of criteria (Galab et al., 2014). In each sentinel site, 100 households with a child born in 2001-02 and 50 households with a child born in 1994-95 were randomly selected. If a selected family had both a 1-year-old child and an 8-year-old child the younger child was included since a greater number were needed (Young Lives, 2017).

In 2001, a sentinel site in United Andhra Pradesh was defined as a mandal. The old state of Andhra Pradesh was divided into 23 administrative districts, each sub-divided into several mandals, depending on the district size. In total, there were 1,125 mandals and around 27,000 villages, with generally between 20-40 villages in a mandal (Young Lives, 2017). See Appendix A.1 for a map showing Young Lives India's study sites.



Appendix A.1 Young Lives' study sites in India (S. Khan, 2017).

Appendix B. Items Included in the Psychosocial Scales

Scale	Items
Self-esteem	1. I do lots of important things 2. In general, I like being the way I am 3. Overall, I have a lot to be proud of 4. I can do things as well as most people 5. Other people think I am a good person 6. A lot of things about me are good 7. I'm as good as most other people 8. When I do something, I do it well
Self-efficacy	1. I can always manage to solve difficult problems if I try hard enough 2. If someone opposes me, I can find the means and ways to get what I want 3. It is easy for me to stick to my aims and accomplish my goals 4. I am confident that I would deal efficiently with unexpected events 5. Thanks to my resourcefulness, I know how to handle unforeseen situations 6. I can solve most problems if I invest the necessary effort 7. I can remain calm when facing difficulties because I can rely on my coping abilities 8. When I am confronted with a problem, I can usually find several solutions 9. If I am in trouble, I can usually think of a solution 10. I can usually handle whatever comes my way
Caregiver's Pride	1. I can usually handle whatever comes my way 2. I feel proud of the job done by the head of the household 3. The job I do makes me feel proud 4. I feel proud of my children

Caregiver's Agency	1. If I try hard, I can improve my situation in life 2. I like to make plans for my future 3. I can do little to help YL Child do well in school, no matter how hard I try
Parent Relations	1. My parents understand me 2. I like my parents 3. My parents like me 4. If I have children of my own, I want to bring them up like my parents raised me 5. My parents and I spend a lot of time together 6. My parents are easy to talk to 7. I get along well with my parents 8. My parents and I have a lot of fun together
Peer Relations	1. I have lots of friends 2. I make friends easily 3. Other kids want me to be their friend 4. I have more friends than most other kids 5. I get along with other kids easily 6. I am easy to like 7. I am popular with kids of my own age 8. Most other kids like me

Appendix C. Frequencies of Categorical Variables

Frequencies of Categorical Variables: gender, ethnic group, area of residence, state of residence, school enrolment, caregiver's education level, WI, subjective household wealth status, and stunting status at 5 years old

Characteristic	Frequency	Percent (Valid Percent)
Gender		
Male	1017	53.5 (53.7)
Female	877	46.2 (46.3)
Total	1894 (missing: *n* = 6)	99.7 (missing: 0.3)
Ethnic group		
Scheduled Castes	349	18.4
Scheduled Tribes	281	14.8
Backwards Classes	885	46.6
Other Castes	385	20.3
Total	1900	100
Area of residence		
Urban	557	29.3 (29.5)
Rural	1328	68.9 (70.5)
Total	1885 (missing: *n* = 15)	99.2 (missing: 0.8)
State of residence		
Andhra Pradesh	1220	64.2 (64.9)
Telangana	659	34.7 (35.1)
Total	1879 (missing: *n* = 21)	98.9 (missing: 1.1)
School enrolment		
Yes (enrolled)	1675	88.2 (91.1)
No (not enrolled)	163	8.6 (8.9)
Total	1838 (missing: *n* = 62)	96.7 (missing: 3.3)
Caregiver's education level		
No formal education (none)	866	45.6
1-5 years	413	21.7
6-10 years	506	26.6
11+ years	114	6.0
Total	1899 (missing: *n* = 1)	99.9 (missing: 0.1)
Wealth Index (WI)		
Bottom tercile	654	34.4
Middle tercile	613	32.3
Top Tercile	633	33.3
Total	1900	100
Subjective household wealth status		
Very rich	3	0.2
Rich	86	4.5 (4.6)
Comfortable (can get by)	1136	59.8 (60.2)
Struggle to get by	425	22.4 (22.5)
Poor	237	12.5 (12.6)
Destitute	1	0.1
Total	1888 (missing: *n* = 12)	99.4 (missing: 0.6)
Stunting status at 5 years old		
Not stunted	1207	63.5 (64.0)
Moderately stunted	545	28.7 (28.9)
Severely stunted	133	7.0 (7.1)
Total	1885 (missing: *n* = 15)	99.2 (missing: 0.8)

Appendix D. Descriptive Statistics of Continuous Variables

Descriptive statistics of Continuous Variables: age, PPVT raw score, subjective well-being, self-esteem, self-efficacy, parent relations, peer relations, caregiver's subjective well-being, caregiver's pride, caregiver's agency, WI, and HAZ score at 5 years old

	n	Missing n (%)	Min	Max	Mean	Std. Dev
Age in months	1897	3 (0.2)	170	190	180	3.78
PPVT raw score	1886	14 (0.7)	9	57	47.35	7.89
Subjective well-being	1889	11 (0.6)	1	9	5.06	1.41
Self-esteem	1786	114 (6)	16	32	24.75	2.25
Self-efficacy	1810	90 (4.7)	17	40	31.39	2.94
Caregiver's subjective well-being	1900	0	1	9	4.57	1.30
Caregiver's pride	1856	44 (2.3)	6	20	15.95	1.90
Caregiver's agency	1802	98 (5.2)	4	15	11.76	1.71
Parent relations	1848	52 (2.7)	14	32	27.29	2.85
Peer relations	1809	91 (4.8)	15	32	25.08	2.53
WI	1900	0	.10	.95	.63	.16
Height-for-age at 5 years old	1887	13 (0.7)	-6.74	3.13	-1.67	0.99

Note. PPVT = Peabody Picture Vocabulary Test

Appendix E. One-way between-groups ANOVA and Descriptive Statistics Tables for Subjective Wellbeing

Appendix E.1

One-way between-groups ANOVA for Subjective Well-being depending on Ethnic Group

	Sum of Squares	df	Mean Square	F	Sig.	Eta squared
Ethnic group						
Between Groups	55.24	3	18.41	8.80	.000	.01
Within Groups	3671.64	765.81	1.95			
Total	3726.88	768.81				

Appendix E.2

Subjective Well-being Descriptive Statistics by Ethnic Group

Variable	n	Mean	SD	Std. Error	95.0% Confidence Interval for Mean		Min	Max
					Lower	Upper		
Ethnic group								
1. Scheduled Castes	345	4.82	1.46	.078	4.67	4.98	1	9
2. Scheduled Tribes	280	5.00	1.30	.078	4.85	5.15	2	9
3. Backwards Classes	882	5.04	1.38	.046	4.95	5.14	1	9
4. Other Castes	382	5.36	1.45	.074	5.22	5.51	2	9
Total	1889	5.06	1.40	.032	5.00	5.12	1	9

Appendix E.3

One-way between-groups ANOVA for Subjective Well-being depending on Caregiver's Education Level

	Sum of Squares	df	Mean Square	F	Sig.	Eta squared
Caregiver's educ.						
Between Groups	153.47	3	51.16	28.75	.000	.04
Within Groups	3572.52	470.20	1.90			
Total	3725.99	473.20				

Note. Caregiver's educ. = Caregiver's education level

Appendix E.4

Subjective Well-being Descriptive Statistics by Caregiver's Education Level

Variable	n	Mean	SD	Std. Error	95.0% Confidence Interval for Mean		Min	Max
					Lower	Upper		
Caregiver's educ.								
1. None	861	4.85	1.42	.048	4.76	4.94	1	9
2. 1-5 years	410	5.01	1.31	.065	4.88	5.13	1	9
3. 6-10 years	504	5.26	1.38	.062	5.14	5.38	2	9
4. 11+ years	113	5.97	1.29	.122	5.73	6.21	3	9
Total	1888	5.06	1.405	.032	5.00	5.12	1	9

Note. Caregiver's educ. = Caregiver's education level

Appendix E.5

One-way between-groups ANOVA for Subjective Well-being depending on Subjective Household Wealth Status

	Sum of Squares	df	Mean Square	F	Sig.	Eta squared
Household status						
Between Groups	739.55	4	184.89	142.83	.000	.20
Within Groups	2986.20	15.76	1.59			
Total	3725.75	19.76				

Appendix E.6

Subjective Well-being Descriptive Statistics by Subjective Household Wealth Status

Variable	n	Mean	SD	Std. Error	95.0% Confidence Interval for Mean		Min	Max
					Lower	Upper		
Household status								
1. Very rich	3	8.67	.58	.333	7.23	10.10	8	9
2. Rich	86	6.81	1.05	.113	6.59	7.04	3	9
3. Comfortable	1136	5.33	1.30	.039	5.26	5.41	1	9
4. Struggle	425	4.50	1.20	.058	4.38	4.61	2	9
5. Poor or destitute	238	4.11	1.23	.080	3.95	4.26	1	9
Total	1888	5.06	1.40	.032	5.00	5.13	1	9

Appendix F. One-way between-groups ANOVA and Descriptive Statistics Tables for Self-esteem

Appendix F.1

One-way between-groups ANOVA for Self-esteem depending on Ethnic Group

	Sum of Squares	df	Mean Square	F	Sig.	Eta squared
Ethnic group						
Between Groups	11.50	3	3.83	.66	.576	.00
Within Groups	8997.60	719.22	5.05			
Total	9009.10	722.22				

Appendix F.2

Self-esteem Descriptive Statistics by Ethnic Group

Variable	n	Mean	SD	Std. Error	95.0% Confidence Interval for Mean		Min	Max
					Lower	Upper		
Ethnic group								
1. Scheduled Castes	326	24.87	2.16	.120	24.64	25.11	16	32
2. Scheduled Tribes	277	24.60	2.61	.157	24.29	24.91	17	32
3. Backwards Classes	816	24.76	2.12	.074	24.62	24.91	17	32
4. Other Castes	367	26.74	2.31	.121	24.50	24.98	17	32
Total	1786	24.75	2.25	.053	24.65	24.86	16	32

Appendix F.3

One-way between-groups ANOVA for Self-esteem depending on Caregiver's Education Level

	Sum of Squares	df	Mean Square	F	Sig.	Eta squared
Caregiver's educ.						
Between Groups	27.80	3	9.27	1.84	.138	.00
Within Groups	8978.22	1781	5.04			
Total	9006.02	1784				

Note. Caregiver's educ. = Caregiver's education level

Appendix F.4

Self-esteem Descriptive Statistics by Caregiver's Education Level

Variable	N	Mean	SD	Std. Error	95.0% Confidence Interval for Mean		Min	Max
					Lower	Upper		
Caregiver's educ.								
1. None	803	24.72	2.15	.076	24.57	24.87	16	32
2. 1-5 years	396	24.89	2.29	.115	24.67	25.12	17	32
3. 6-10 years	475	24.63	2.35	.108	24.42	24.84	17	32
4. 11+ years	111	25.08	2.35	.223	24.64	25.52	17	32
Total	1785	24.76	2.25	.053	24.86	24.86	16	32

Note. Caregiver's educ. = Caregiver's education level

Appendix F.5

One-way between-groups ANOVA for Self-esteem depending on Subjective Household Wealth Status

	Sum of Squares	df	Mean Square	F	Sig.	Eta squared
Household status						
Between Groups	81.61	4	20.40	3.88	.022	.01
Within Groups	8927.48	15.60	5.01			
Total	9009.09	19.60				

Appendix F.6

Self-esteem descriptive statistics by subjective household wealth status

Variable	n	Mean	SD	Std. Error	95.0% Confidence Interval for Mean		Min	Max
					Lower	Upper		
Household status								
1. Very rich	3	25.33	1.53	.882	21.54	29.13	24	27
2. Rich	85	25.11	2.67	.290	24.53	25.68	17	32
3. Comfortable	1073	24.77	2.18	.066	24.64	24.90	17	32
4. Struggle	405	24.91	2.39	.119	24.68	25.14	17	32
5. Poor or destitute	220	24.23	2.07	.140	23.96	24.51	16	31
Total	1786	24.75	2.25	.053	24.65	24.86	16	32

Appendix G. One-way between-groups ANOVA and Descriptive Statistics Tables for Self-efficacy

Appendix G.1

One-way between-groups ANOVA for Self-Efficacy depending on Ethnic Group

	Sum of Squares	df	Mean Square	F	Sig.	Eta squared
Ethnic group						
Between Groups	36.42	3	12.14	1.04	.376	.00
Within Groups	15590.63	710.65	8.63			
Total	15627.05	713.65				

Appendix G.2

Self-efficacy descriptive statistics by Ethnic Group

Variable	n	Mean	SD	Std. Error	95.0% Confidence Interval for Mean		Min	Max
					Lower	Upper		
Ethnic group								
1. Scheduled Castes	331	31.39	2.97	.163	31.07	31.71	20	40
2. Scheduled Tribes	277	31.07	3.62	.218	30.64	31.50	17	40
3. Backwards Classes	834	31.42	2.69	.093	31.24	31.61	22	40
4. Other Castes	368	31.53	2.89	.151	31.24	31.83	19	40
Total	1810	31.39	2.94	.069	31.25	31.52	17	40

Appendix G.3

One-way between-groups ANOVA for Self-efficacy depending on Caregiver's Education Level

	Sum of Squares	df	Mean Square	F	Sig.	Eta squared
Caregiver's educ.						
Between Groups	296.92	3	98.97	11.66	.000	.02
Within Groups	15328.21	1805	8.49			
Total	15625.13	1808				

Note. Caregiver's educ. = Caregiver's education level

Appendix G.4

Self-efficacy descriptive statistics by Caregiver's Education Level

Variable	n	Mean	SD	Std. Error	95.0% Confidence Interval for Mean		Min	Max
					Lower	Upper		
Caregiver's educ.								
1. None	822	31.13	2.88	.100	30.93	31.32	17	40
2. 1-5 years	389	31.58	2.98	.151	31.29	31.88	20	40
3. 6-10 years	488	31.35	2.91	.131	31.09	31.60	19	40
4. 11+ years	110	32.82	2.97	.284	32.26	33.38	27	40
Total	1809	31.39	2.94	.069	31.25	31.52	17	40

Note. Caregiver's educ. = Caregiver's education level

Appendix G.5

One-way between-groups ANOVA for Self-efficacy depending on Subjective Household Wealth Status

	Sum of Squares	df	Mean Square	F	Sig.	Eta squared
Household status						
Between Groups	288.73	4	72.18	7.22	.002	.02
Within Groups	15338.33	15.51	8.50			
Total	15627.06	19.51				

Appendix G.6

Self-efficacy Descriptive Statistics by Subjective Household Wealth Status

Variable	n	Mean	SD	Std. Error	95.0% Confidence Interval for Mean		Min	Max
					Lower	Upper		
Household status								
1. Very rich	3	33.67	4.62	2.667	22.19	45.14	31	39
2. Rich	84	32.26	3.29	.359	31.55	32.98	23	40
3. Comfortable	1100	31.51	2.78	.084	31.34	31.67	19	40
4. Struggle	404	31.37	3.21	.160	31.06	31.69	17	40
5. Poor or destitute	219	30.45	2.84	.192	30.07	30.83	21	40
Total	1810	31.39	2.94	.069	31.25	31.52	17	40

Appendix H. Predictors in the Initial Models of Hierarchical Multiple Regression of Subjective Well-being, Self-esteem and Self-efficacy

a. Predictors: (Constant), Gender, Ethnic groups, PPVT score
b. Predictors: (Constant), Gender, Ethnic groups, PPVT score, Caregiver's education levels, Caregiver's well-being, Caregiver's pride, Caregiver's agency, Parent relations, Peer relations
c. Predictors: (Constant), Gender, Ethnic groups, PPVT score, Caregiver's education levels, Caregiver's well-being, Caregiver's pride, Caregiver's agency, Parent relations, Peer relations, School enrolment
d. Predictors: (Constant), Gender, Ethnic groups, PPVT score, Caregiver's education levels, Caregiver's well-being, Caregiver's pride, Caregiver's agency, Parent relations, Peer relations, School enrolment, WI, Household is subjectively poor, Area, State
e. Predictors: (Constant), Gender, Ethnic groups, PPVT score, Gender, Ethnic groups, PPVT score, Caregiver's education levels, Caregiver's well-being, Caregiver's pride, Caregiver's agency, Parent relations, Peer relations, School enrolment, WI, Household is subjectively poor, Area, State, Height-for-age at 5 years old

Appendix I. Initial Model's Coefficients[a] of Hierarchical Multiple Regression of Subjective Well-being

Model		Unstandardised Coefficients		Std. Coefs			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	5.91	.11		52.47	.000	5.68	6.13
	Gender	.13	.07	.05	1.94	.052	.00	.26
	Scheduled Castes	-.45	.11	-.12	-4.17	.000	-.66	-.24
	Scheduled Tribes	-.23	.12	-.06	-1.98	.048	-.45	.00
	Backwards Classes	-.23	.09	-.08	-2.58	.010	-.40	-.06
	PPVT score	-.75	.10	-.18	-7.39	.000	-.94	-.55
2	(Constant)	1.30	.46		2.84	.005	.40	2.20
	Gender	.09	.06	.03	1.44	.149	-.03	.20
	Scheduled Castes	-.10	.10	-.03	-.97	.333	-.29	.10
	Scheduled Tribes	-.14	.11	-.03	-1.28	.200	-.34	.07
	Backwards Classes	-.08	.08	-.03	-.96	.336	-.24	.08
	PPVT score	-.41	.09	-.10	-4.34	.000	-.59	-.22
	CG educ. 1-5 yrs.	-.04	.08	-.01	-.54	.587	-.19	.11
	CG educ. 6-10 yrs.	-.02	.08	-.01	-.30	.764	-.17	.13
	CG educ. 11+ yrs.	.06	.14	.01	.42	.678	-.21	.33
	CG's well-being	.50	.02	.46	2.36	.000	.45	.54
	CG's pride	.02	.02	.03	1.34	.180	-.01	.05
	CG's agency	.00	.02	.00	.19	.849	-.03	.04
	Parent relations	.02	.01	.05	2.11	.035	.00	.05
	Peer relations	.04	.01	.06	2.87	.004	.01	.06
3	(Constant)	1.08	.46		2.35	.019	.18	1.98
	Gender	.10	.06	.04	1.66	.098	-.02	.21
	Scheduled Castes	-.10	.10	-.03	-1.00	.317	-.29	.09
	Scheduled Tribes	-.12	.11	-.03	-1.15	.249	-.33	.09
	Backwards Classes	-.08	.08	-.03	-.95	.344	-.24	.08
	PPVT score	-.35	.09	-.08	-3.76	.000	-.54	-.17
	CG educ. 1-5 yrs.	-.06	.08	-.02	-.76	.447	-.21	.09
	CG educ. 6-10 yrs.	-.05	.08	-.02	-.67	.502	-.20	.10
	CG educ. 11+ yrs.	.04	.14	.01	.28	.782	-.23	.31
	CG's well-being	.49	.02	.45	2.22	.000	.44	.54
	CG's pride	.02	.02	.03	1.34	.180	-.01	.05
	CG's agency	.00	.02	.00	-.07	.942	-.04	.03
	Parent relations	.02	.01	.04	1.97	.049	.00	.04
	Peer relations	.03	.01	.06	2.69	.007	.01	.06
	School enrolment	.39	.11	.08	3.68	.000	.18	.60
4	(Constant)	1.77	.47		3.76	.000	.85	2.69

	Gender	.06	.06	.02	.96	.339	-.06	.17
	Scheduled Castes	-.08	.10	-.02	-.82	.412	-.27	.11
	Scheduled Tribes	-.05	.11	-.01	-.43	.670	-.25	.16
	Backwards Classes	-.10	.08	-.04	-1.26	.208	-.25	.06
	PPVT score	-.33	.09	-.08	-3.64	.000	-.51	-.15
	CG educ. 1-5 yrs.	.00	.08	.00	.04	.967	-.15	.15
	CG educ. 6-10 yrs.	-.02	.08	-.01	-.23	.822	-.17	.14
	CG educ. 11+ yrs.	.09	.14	.02	.61	.539	-.19	.36
	CG's well-being	.44	.03	.40	17.53	.000	.39	.49
	CG's pride	.01	.02	.01	.32	.748	-.03	.04
	CG's agency	.00	.02	.00	-.03	.979	-.03	.03
	Parent relations	.04	.01	.07	3.23	.001	.01	.06
	Peer relations	.02	.01	.04	1.73	.085	.00	.04
	School enrolment	.29	.10	.06	2.81	.005	.09	.49
	WI	-.22	.24	-.02	-.89	.373	-.69	.26
	Subjectively poor	-.67	.07	-.23	-1.10	.000	-.80	-.54
	Area of residence	.02	.07	.01	.27	.790	-.13	.17
	State of residence	.49	.06	.17	7.76	.000	.36	.61
5	(Constant)	1.81	.47		3.82	.000	.88	2.73
	Gender	.05	.06	.02	.91	.366	-.06	.16
	Scheduled Castes	-.08	.10	-.02	-.79	.431	-.26	.11
	Scheduled Tribes	-.04	.11	-.01	-.39	.694	-.25	.17
	Backwards Classes	-.09	.08	-.03	-1.20	.230	-.25	.06
	PPVT score	-.32	.09	-.08	-3.56	.000	-.50	-.15
	CG educ. 1-5 yrs.	.00	.08	.00	.01	.992	-.15	.15
	CG educ. 6-10 yrs.	-.02	.08	-.01	-.27	.791	-.18	.13
	CG educ. 11+ yrs.	.08	.14	.01	.55	.584	-.20	.35
	CG's well-being	.44	.03	.40	17.48	.000	.39	.48
	CG's pride	.01	.02	.01	.34	.736	-.03	.04
	CG's agency	.00	.02	.00	-.04	.969	-.04	.03
	Parent relations	.04	.01	.07	3.24	.001	.01	.06
	Peer relations	.02	.01	.04	1.72	.085	.00	.04
	School enrolment	.29	.10	.06	2.85	.004	.09	.50
	WI	-.23	.24	-.03	-.96	.338	-.71	.25
	Subjectively poor	-.67	.07	-.23	-1.01	.000	-.80	-.54
	Area of residence	.02	.07	.01	.33	.744	-.12	.17
	State of residence	.49	.06	.17	7.79	.000	.37	.61
	Height-for-age 5 yr.	.03	.03	.02	.84	.399	-.03	.08

Note. PPVT = Peabody Picture Vocabulary Test, CG= Caregiver, CG's educ. = Caregiver's years of education completed

a. Dependent Variable: Subjective well-being

Appendix J. Initial Model's Coefficients[a] of Hierarchical Multiple Regression of Self-Esteem

Model		Unstandardised Coefficients		Std. Coefs			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	24.83	.19		134.05	.000	24.47	25.19
	Gender	.16	.11	.03	1.42	.157	-.06	.37
	Scheduled Castes	.15	.18	.03	.84	.401	-.20	.50
	Scheduled Tribes	-.11	.19	-.02	-.59	.554	-.48	.26
	Backwards Classes	.04	.15	.01	.29	.771	-.25	.33
	PPVT score	-.19	.17	-.03	-1.17	.242	-.52	.13
2	(Constant)	8.14	.68		12.06	.000	6.81	9.46
	Gender	-.06	.09	-.01	-.71	.476	-.23	.11
	Scheduled Castes	-.02	.15	.00	-.11	.911	-.30	.27
	Scheduled Tribes	-.34	.16	-.05	-2.18	.029	-.65	-.03
	Backwards Classes	-.15	.12	-.03	-1.27	.206	-.39	.08
	PPVT score	.19	.14	.03	1.37	.171	-.08	.46
	CG educ. 1-5 yrs.	.09	.11	.02	.80	.427	-.13	.31
	CG educ. 6-10 yrs.	-.26	.11	-.05	-2.28	.023	-.48	-.04
	CG educ. 11+ yrs.	-.01	.20	.00	-.06	.952	-.41	.39
	CG's well-being	-.12	.04	-.07	-3.43	.001	-.19	-.05
	CG's pride	.08	.02	.07	3.28	.001	.03	.13
	CG's agency	.08	.03	.06	3.08	.002	.03	.13
	Parent relations	.11	.02	.14	6.61	.000	.08	.14
	Peer relations	.48	.02	.54	26.63	.000	.44	.51
3	(Constant)	8.14	.68		11.97	.000	6.81	9.48
	Gender	-.06	.09	-.01	-.72	.473	-.23	.11
	Scheduled Castes	-.02	.15	.00	-.11	.911	-.30	.27
	Scheduled Tribes	-.34	.16	-.05	-2.18	.029	-.65	-.04
	Backwards Classes	-.15	.12	-.03	-1.27	.206	-.39	.08
	PPVT score	.19	.14	.03	1.34	.181	-.09	.46
	CG educ. 1-5 yrs.	.09	.11	.02	.80	.424	-.13	.32
	CG educ. 6-10 yrs.	-.26	.11	-.05	-2.26	.024	-.48	-.03
	CG educ. 11+ yrs.	-.01	.20	.00	-.06	.955	-.41	.39
	CG's well-being	-.12	.04	-.07	-3.42	.001	-.19	-.05
	CG's pride	.08	.02	.07	3.28	.001	.03	.13
	CG's agency	.08	.03	.06	3.08	.002	.03	.13
	Parent relations	.11	.02	.14	6.60	.000	.08	.14
	Peer relations	.48	.02	.54	26.60	.000	.44	.51
	School enrolment	-.02	.16	.00	-.09	.925	-.32	.29
4	(Constant)	7.93	.72		1.94	.000	6.51	9.35

	Gender	-.05	.09	-.01	-.59	.553	-.22	.12
	Scheduled Castes	-.01	.15	.00	-.04	.965	-.30	.28
	Scheduled Tribes	-.30	.16	-.05	-1.83	.067	-.62	.02
	Backwards Classes	-.15	.12	-.03	-1.25	.211	-.39	.09
	PPVT score	.16	.14	.02	1.17	.244	-.11	.44
	CG educ. 1-5 yrs.	.13	.12	.02	1.09	.278	-.10	.35
	CG educ. 6-10 yrs.	-.25	.12	-.05	-2.02	.043	-.48	-.01
	CG educ. 11+ yrs.	-.02	.22	.00	-.10	.922	-.44	.40
	CG's well-being	-.13	.04	-.08	-3.39	.001	-.21	-.06
	CG's pride	.08	.02	.06	3.15	.002	.03	.12
	CG's agency	.08	.03	.06	3.06	.002	.03	.13
	Parent relations	.12	.02	.15	7.06	.000	.09	.15
	Peer relations	.47	.02	.53	25.80	.000	.43	.51
	School enrolment	-.06	.16	-.01	-.38	.702	-.37	.25
	WI	.26	.37	.02	.69	.493	-.48	.99
	Subjectively poor	-.05	.10	-.01	-.46	.648	-.25	.15
	Area of residence	.02	.11	.01	.20	.838	-.20	.25
	State of residence	.29	.10	.06	2.95	.003	.10	.48
5	(Constant)	8.02	.73		11.04	.000	6.60	9.45
	Gender	-.06	.09	-.01	-.68	.496	-.23	.11
	Scheduled Castes	.00	.15	.00	.01	.990	-.29	.29
	Scheduled Tribes	-.29	.16	-.05	-1.77	.077	-.61	.03
	Backwards Classes	-.14	.12	-.03	-1.15	.251	-.38	.10
	PPVT score	.18	.14	.03	1.28	.200	-.10	.46
	CG educ. 1-5 yrs.	.12	.12	.02	1.03	.303	-.11	.35
	CG educ. 6-10 yrs.	-.25	.12	-.05	-2.09	.037	-.49	-.02
	CG educ. 11+ yrs.	-.05	.22	-.01	-.21	.831	-.47	.38
	CG's well-being	-.13	.04	-.08	-3.45	.001	-.21	-.06
	CG's pride	.08	.02	.07	3.18	.001	.03	.12
	CG's agency	.08	.03	.06	3.04	.002	.03	.13
	Parent relations	.12	.02	.15	7.10	.000	.09	.15
	Peer relations	.47	.02	.53	25.80	.000	.43	.51
	School enrolment	-.05	.16	-.01	-.31	.754	-.36	.26
	WI	.21	.38	.02	.56	.577	-.53	.95
	Subjectively poor	-.04	.10	-.01	-.34	.731	-.24	.17
	Area of residence	.04	.11	.01	.31	.755	-.19	.26
	State of residence	.29	.10	.06	3.03	.002	.10	.48
	Height-for-age 5 yr.	.07	.05	.03	1.50	.135	-.02	.16

Note. PPVT = Peabody Picture Vocabulary Test, CG= Caregiver, CG's educ. = Caregiver's years of education completed

a. Dependent Variable: Self-esteem

Appendix K. Initial Model's Coefficients[a] of Hierarchical Multiple Regression of Self-efficacy

Model		Unstandardised Coefficients		Std. Coefs			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	32.61	.24		136.87	.000	32.14	33.08
	Gender	-.09	.14	-.02	-.66	.513	-.37	.18
	Scheduled Castes	.04	.23	.01	.18	.859	-.41	.49
	Scheduled Tribes	-.22	.24	-.03	-.91	.362	-.70	.26
	Backwards Classes	.06	.19	.01	.33	.740	-.31	.43
	PPVT score	-1.30	.21	-.15	-6.09	.000	-1.72	-.88
2	(Constant)	15.60	.96		16.21	.000	13.71	17.49
	Gender	-.32	.12	-.05	-2.58	.010	-.56	-.08
	Scheduled Castes	.05	.21	.01	.23	.821	-.36	.45
	Scheduled Tribes	-.32	.22	-.04	-1.45	.148	-.76	.12
	Backwards Classes	-.03	.17	-.01	-.18	.861	-.37	.31
	PPVT score	-.78	.20	-.09	-3.96	.000	-1.16	-.39
	CG educ. 1-5 yrs.	.31	.16	.04	1.90	.058	-.01	.63
	CG educ. 6-10 yrs.	-.12	.16	-.02	-.75	.457	-.44	.20
	CG educ. 11+ yrs.	.93	.29	.08	3.19	.001	.36	1.49
	CG's well-being	-.03	.05	-.01	-.60	.548	-.13	.07
	CG's pride	.07	.03	.05	2.03	.043	.00	.14
	CG's agency	.05	.04	.03	1.38	.169	-.02	.13
	Parent relations	.09	.02	.09	4.06	.000	.05	.14
	Peer relations	.49	.03	.43	19.29	.000	.44	.55
3	(Constant)	15.10	.97		15.62	.000	13.20	17.00
	Gender	-.29	.12	-.05	-2.36	.018	-.53	-.05
	Scheduled Castes	.04	.21	.01	.20	.845	-.36	.44
	Scheduled Tribes	-.29	.22	-.04	-1.31	.191	-.73	.15
	Backwards Classes	-.03	.17	.00	-.16	.877	-.36	.31
	PPVT score	-.66	.20	-.08	-3.34	.001	-1.05	-.27
	CG educ. 1-5 yrs.	.27	.16	.04	1.67	.096	-.05	.59
	CG educ. 6-10 yrs.	-.19	.16	-.03	-1.15	.251	-.50	.13
	CG educ. 11+ yrs.	.88	.29	.07	3.05	.002	.31	1.45
	CG's well-being	-.04	.05	-.02	-.81	.421	-.14	.06
	CG's pride	.07	.03	.05	2.03	.042	.00	.14
	CG's agency	.04	.04	.02	1.09	.275	-.03	.12
	Parent relations	.09	.02	.09	3.92	.000	.05	.14
	Peer relations	.49	.03	.42	19.14	.000	.44	.54
	School enrolment	.89	.22	.09	3.98	.000	.45	1.33
4	(Constant)	14.50	1.03		14.10	.000	12.48	16.52

	Gender	-.29	.13	-.05	-2.35	.019	-.54	-.05
	Scheduled Castes	.08	.21	.01	.38	.708	-.33	.49
	Scheduled Tribes	-.17	.23	-.02	-.75	.455	-.63	.28
	Backwards Classes	-.04	.17	-.01	-.23	.816	-.38	.30
	PPVT score	-.63	.20	-.07	-3.17	.002	-1.02	-.24
	CG educ. 1-5 yrs.	.27	.17	.04	1.63	.104	-.06	.59
	CG educ. 6-10 yrs.	-.23	.17	-.04	-1.36	.176	-.57	.10
	CG educ. 11+ yrs.	.83	.31	.07	2.72	.007	.23	1.43
	CG's well-being	-.09	.05	-.04	-1.68	.093	-.20	.02
	CG's pride	.06	.03	.04	1.79	.074	-.01	.13
	CG's agency	.04	.04	.02	.98	.327	-.04	.11
	Parent relations	.10	.02	.09	3.99	.000	.05	.14
	Peer relations	.48	.03	.42	18.71	.000	.43	.53
	School enrolment	.80	.23	.08	3.54	.000	.36	1.24
	WI	1.40	.53	.08	2.64	.008	.36	2.44
	Subjectively poor	-.10	.15	-.02	-.71	.478	-.39	.18
	Area of residence	.26	.16	.04	1.62	.105	-.06	.58
	State of residence	.15	.14	.02	1.08	.279	-.12	.42
5	(Constant)	14.57	1.03		14.11	.000	12.54	16.59
	Gender	-.30	.13	-.05	-2.39	.017	-.54	-.05
	Scheduled Castes	.09	.21	.01	.40	.687	-.33	.50
	Scheduled Tribes	-.17	.23	-.02	-.72	.473	-.62	.29
	Backwards Classes	-.03	.17	-.01	-.18	.855	-.37	.31
	PPVT score	-.62	.20	-.07	-3.10	.002	-1.01	-.23
	CG educ. 1-5 yrs.	.26	.17	.04	1.60	.111	-.06	.59
	CG educ. 6-10 yrs.	-.24	.17	-.04	-1.39	.165	-.58	.10
	CG educ. 11+ yrs.	.82	.31	.07	2.66	.008	.21	1.42
	CG's well-being	-.09	.05	-.04	-1.71	.088	-.20	.01
	CG's pride	.06	.03	.04	1.80	.072	-.01	.13
	CG's agency	.04	.04	.02	.97	.333	-.04	.11
	Parent relations	.10	.02	.09	4.00	.000	.05	.14
	Peer relations	.48	.03	.42	18.70	.000	.43	.53
	School enrolment	.81	.23	.08	3.57	.000	.36	1.25
	WI	1.37	.53	.07	2.56	.010	.32	2.41
	Subjectively poor	-.10	.15	-.02	-.65	.514	-.38	.19
	Area of residence	.27	.16	.04	1.67	.095	-.05	.59
	State of residence	.15	.14	.03	1.12	.263	-.12	.42
	Height-for-age 5 yr.	.05	.07	.02	.75	.455	-.08	.18

Note. PPVT = Peabody Picture Vocabulary Test, CG= Caregiver, CG's educ. = Caregiver's years of education completed

a. Dependent Variable: Self-efficacy

Appendix L. Additional Model's Summary[f] of Hierarchical Multiple Regression of Self-efficacy, Excluding Caregiver's Education Level

				Std. Error	Change Statistics				
Model	R	R^2	Adjusted R^2	of the Estimate	R^2 Change	F Change	df1	df2	Sig. F Change
1	.154[a]	.024	.021	2.908	.024	8.34	5	1718	.000
2	.499[b]	.249	.245	2.555	.225	102.75	5	1713	.000
3	.506[c]	.256	.251	2.544	.007	15.48	1	1712	.000
4	.510[d]	.260	.253	2.540	.004	2.30	4	1708	.057
5	.510[e]	.260	.253	2.540	.000	.85	1	1707	.358

a. Predictors: (Constant), Gender, Ethnic groups, PPVT score
b. Predictors: (Constant), Gender, Ethnic groups, PPVT score, Caregiver's well-being, Caregiver's pride, Caregiver's agency, Parent relations, Peer relations
c. Predictors: (Constant), Gender, Ethnic groups, PPVT score, Caregiver's well-being, Caregiver's pride, Caregiver's agency, Parent relations, Peer relations, School enrolment
d. Predictors: (Constant), Gender, Ethnic groups, PPVT score, Caregiver's well-being, Caregiver's pride, Caregiver's agency, Parent relations, Peer relations, School enrolment, WI, Household is subjectively poor, Area, State
e. Predictors: (Constant), Gender, Ethnic groups, PPVT score, Gender, Ethnic groups, PPVT score, Caregiver's well-being, Caregiver's pride, Caregiver's agency, Parent relations, Peer relations, School enrolment, WI, Household is subjectively poor, Area, State, Height-for-age at 5 years old
f. Dependent Variable: Subjective self-efficacy

Appendix M. Additional Model's Coefficients[a] of Hierarchical Multiple Regression of Self-efficacy, Excluding Caregiver's Education Level

Model		Unstandardised Coefficients		Std. Coefs			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	32.61	.24		136.87	.000	32.14	33.08
	Gender	-.09	.14	-.02	-.66	.513	-.37	.18
	Scheduled Castes	.04	.23	.01	.18	.859	-.41	.49
	Scheduled Tribes	-.22	.24	-.03	-.91	.362	-.70	.26
	Backwards Classes	.06	.19	.01	.33	.740	-.31	.43
	PPVT score	-1.30	.21	-.15	-6.09	.000	-1.72	-.88
2	(Constant)	15.33	.96		15.91	.000	13.44	17.22
	Gender	-.33	.12	-.06	-2.67	.008	-.58	-.09
	Scheduled Castes	.02	.20	.00	.08	.933	-.38	.42
	Scheduled Tribes	-.33	.22	-.04	-1.51	.131	-.75	.10
	Backwards Classes	-.04	.17	-.01	-.25	.800	-.37	.29
	PPVT score	-.82	.19	-.09	-4.26	.000	-1.20	-.44
	CG's well-being	.00	.05	.00	.01	.989	-.10	.10
	CG's pride	.08	.03	.05	2.25	.025	.01	.15
	CG's agency	.06	.04	.04	1.56	.118	-.02	.13
	Parent relations	.10	.02	.09	4.17	.000	.05	.14
	Peer relations	.50	.03	.43	19.25	.000	.44	.55
3	(Constant)	14.83	.97		15.32	.000	12.93	16.73
	Gender	-.31	.12	-.05	-2.46	.014	-.55	-.06
	Scheduled Castes	.03	.20	.00	.13	.894	-.37	.42
	Scheduled Tribes	-.27	.22	-.03	-1.26	.208	-.69	.15
	Backwards Classes	-.02	.17	.00	-.14	.886	-.35	.30
	PPVT score	-.70	.20	-.08	-3.57	.000	-1.08	-.31
	CG's well-being	-.01	.05	-.01	-.26	.795	-.11	.08
	CG's pride	.08	.03	.05	2.25	.025	.01	.14
	CG's agency	.05	.04	.03	1.26	.208	-.03	.12
	Parent relations	.09	.02	.09	4.00	.000	.05	.14
	Peer relations	.49	.03	.42	19.11	.000	.44	.54
	School enrolment	.88	.22	.09	3.93	.000	.44	1.32
4	(Constant)	14.26	1.03		13.84	.000	12.24	16.28
	Gender	-.31	.13	-.05	-2.46	.014	-.55	-.06
	Scheduled Castes	.10	.21	.01	.45	.650	-.32	.50
	Scheduled Tribes	-.11	.23	-.01	-.49	.622	-.56	.34
	Backwards Classes	-.01	.17	.00	-.07	.944	-.34	.32
	PPVT score	-.65	.20	-.07	-3.30	.001	-1.04	-.27
	CG's well-being	-.07	.05	-.03	-1.24	.214	-.17	.04

	CG's pride	.07	.03	.05	2.00	.046	.00	.14
	CG's agency	.04	.04	.03	1.13	.260	-.03	.12
	Parent relations	.10	.02	.09	4.01	.000	.05	.14
	Peer relations	.48	.03	.42	18.67	.000	.43	.54
	School enrolment	.78	.23	.08	3.45	.001	.34	1.22
	WI	1.40	.52	.08	2.69	.007	.38	2.43
	Subjectively poor	-.09	.15	-.01	-.61	.544	-.37	.20
	Area of residence	.21	.16	.03	1.31	.191	-.10	.51
	State of residence	.14	.14	.02	1.01	.311	-.13	.41
5	(Constant)	14.35	1.04		13.87	.000	12.32	16.38
	Gender	-.31	.13	-.05	-2.51	.012	-.56	-.07
	Scheduled Castes	.10	.21	.01	.50	.620	-.31	.51
	Scheduled Tribes	-.10	.23	-.01	-.45	.652	-.56	.35
	Backwards Classes	.00	.17	.00	.00	1.000	-.33	.33
	PPVT score	-.64	.20	-.07	-3.20	.001	-1.03	-.25
	CG's well-being	-.07	.05	-.03	-1.30	.195	-.18	.04
	CG's pride	.07	.03	.05	2.02	.044	.00	.14
	CG's agency	.04	.04	.02	1.11	.268	-.03	.12
	Parent relations	.10	.02	.09	4.03	.000	.05	.14
	Peer relations	.48	.03	.42	18.66	.000	.43	.54
	School enrolment	.79	.23	.08	3.49	.001	.35	1.23
	WI	1.36	.53	.07	2.58	.010	.33	2.39
	Subjectively poor	-.08	.15	-.01	-.54	.591	-.37	.21
	Area of residence	.22	.16	.03	1.39	.165	-.09	.53
	State of residence	.15	.14	.02	1.07	.286	-.12	.41
	Height-for-age 5 yr.	.06	.07	.02	.92	.358	-.07	.19

Note. PPVT = Peabody Picture Vocabulary Test, CG= Caregiver
a. Dependent Variable: Self-efficacy

Appendix N. Glossary and Acronyms

Glossary

Adolescence – A phase associated with the beginning of puberty, through to early adulthood, adolescents are people between the ages of 10-19

Cross-sectional study – A study of a group of people at one point in time

Ecological – Environmental, related to the relationships between living things and their environments

Gini coefficient – A statistical measure of economic inequality in a population, 0 = perfect equality and 100 = perfect inequality

Longitudinal study – A study of the same group of people at more than one point in time

Psychosocial skills – Non-cognitive attributes and capabilities encompassing aspects of personality and behaviour

Stunted – Stunting is an indicator of chronic or long-term undernutrition, a stunted child is one whose height is more than two standard deviations below the median height of reference children of the same gender and age

Subjective well-being – A self-reported measure of well-being, related to life satisfaction

Sustainable development – An approach to development that satisfies present needs without compromising the capacity of generations to meet their needs

Youth – Typically encompasses the transition from childhood to early adulthood, usually defined as between 10 and 24 years of age

Acronyms

ANOVA – Analysis of variance

ESM – Ecological Systems Model

GLODE – Master's Programme in Global Development Theory and Practice

GNI – Gross National Income

HAZ – Height-for-age z-score (indicates the child's relative position expressed in terms of standard deviations from the median compared with the range of normal height for that age)

HBSC – Health Behaviour in School-aged Children (a World Health Organization collaborative cross-national survey, the HBSC research network is an international alliance of researchers that collaborate on the cross-national survey of school students)

ICRW – International Center for Research on Women

IOM – Institute of Medicine

NRC – National Research Council

OECD – Organisation for Economic Co-operation and Development

PPVT – Peabody Picture Vocabulary Test

SDG – Sustainable Development Goal

SDQ – Self-description questionnaire

UN – United Nations

UNHCR – United Nations High Commissioner for Refugees

WHO – World Health Organization

WI – Wealth Index