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College Readiness and Student Success in Higher Education in India
An Inclusive Agenda

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Nidhi S. Sabharwal*

Abstract

The significance of accessing and completing higher education is becoming increasingly relevant for the productivity and social prosperity of individuals, and the economic growth of a nation. Equitable access to and success in higher education is perceived to be crucial for ensuring more inclusive growth by providing fair opportunities and enriching a person's human capital, thereby raising the resources embedded in people. Higher education in India has undergone significant changes, including the widespread expansion of the sector. With higher education policies focusing on providing equitable access, a large number of students from traditionally under-represented groups, such as socially and economically disadvantaged groups, have entered the higher education system. This has led to the creation of a new student body with varying levels of academic preparedness and diverse social backgrounds. While fulfilling the objective of increasing enrolment students from traditionally under-represented groups in higher education, it is also imperative to ensure that students are equipped with the knowledge and skills to succeed. Students from disadvantaged socio-economic backgrounds, who are more likely to be first-generation learners, face academic and social barriers that affect their integration and inclusion into the social mainstream. This, in turn, leads to high drop-out rates and poor learning outcomes among these students. Every learner thus needs to be imparted the requisite skills for learning in higher education and 'college readiness' essential for academic success. 'College readiness' refers to the students' ability to participate in various college-level activities, enrol in post-secondary institutions, and complete college-level coursework. This includes obtaining good grades, meeting one's aspirations, and acquiring an understanding of college culture, such as ways of interacting with professors and peers, and navigating the college system. It also entails developing the motivation and self-efficacy to persist in achieving one's educational goals. The National Education Policy (NEP) 2020 re-affirms the goal of advancing equity in learning outcomes in higher education. It places the responsibility on institutions to support diverse student population groups in academic and

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social domains. It is, therefore, important for Higher Education Institutions (HEIs) to address issues related to college readiness in a massifying higher education system with the goal of promoting improved learning outcomes and advancing academic and social inclusion for students from diverse backgrounds.

Introduction

Accessing higher education and completing it is becoming increasingly important for ensuring the productivity and prosperity of individuals, and the economic growth of nations. Knowledge and skills gained through higher education are crucial to succeed in today's knowledge-based economies. The returns on investment in education consistently grow over time (World Bank, 2007; Goldin and Katz, 2008; Oreopoulos and Petronijevic, 2013; Hanushek and Woessmann, 2016). Equitable access to higher education is the key to making growth more inclusive by creating a fair distribution of opportunities that augment a person's human capital and optimise the resources embedded in people (Varghese et al., 2018).

Access to higher education is crucial for human development, as it enhances individual capabilities, expands choices, and promotes well-being. The extant literature acknowledges that equitable access to and completion of higher education promotes economic growth, reduces intergroup economic inequalities, and fosters sustainable development (Black and Devereux, 2010; UNESCO, 2017). Therefore, promoting equitable access to higher education and academic accomplishments has broad national benefits.

India's higher education sector has undergone significant changes, with a student population of 43.3 million and a Gross Enrolment Ratio (GER) of 28.4 per cent (MoE, 2022). One of these changes is the massification of the sector, resulting in a diverse student body. The rise in social demand, increasing participation rates in schools, and expanding supply conditions, coupled with affirmative action, have deepened student diversity in Higher Education Institutions (HEIs), which previously served a more homogeneous elite student body (Sabharwal and Malish, 2017). Affirmative action measures, such as the reservation policy, scholarships, and relaxation in admission requirements, have expanded access to under-represented students in higher education, thereby improving student diversity in a scenario of massification (Sabharwal, 2020a).

While an increasing number of students from diverse backgrounds are currently accessing college education in India, emerging evidence highlights concerns about their preparedness to persevere in their educational objectives and achieve academic success (Reid and Moore, 2008). Providing access to higher education without ensuring

adequate learning opportunities and success can deepen inequalities and injustices (Marginson, 2011; Wilson-Strydom, 2015). Hence, the measures that students from disadvantaged social groups can take in order to overcome these inequalities and injustices in higher education, are critical components part of college readiness discourse.

College readiness indicates students' capacity to engage in college search activities, enrol in post-secondary institutions, and perform college-level course work to earn the requisite grades. In addition, readiness for college entails the fulfilment of students' aspirations, along with nurturing motivation and ensuring self-efficacy to persevere in achieving one's educational goals (Conley, 2012). It is argued that access to college gained through test scores and qualifying marks that make students eligible for higher education does not naturally translate into students being 'college ready'. College readiness also implies being equipped with the knowledge and skills needed to achieve academic success during one's higher education journey.

This paper explores the different components of college readiness, including its influencing characteristics and the preparedness of HEIs to facilitate the academic success of students, especially those from diverse socio-economic and academic backgrounds. The importance of college readiness is viewed through a normative human development framework (Ul-Haq, 1995) while acknowledging the significance of the human capital formation perspective as a rationale for investing in college readiness.

The rationale for investing in college readiness is discussed through multiple perspectives in this paper. Following this introduction, Section 2 of the paper discusses the human capital approach to higher education as a rationale for investing in college readiness, followed by the alternative human development approach, including a commitment to social justice as an epistemological logic of considering college readiness as one of the national education priorities. The role of economic capital, social capital, cultural capital, and cognitive and psychological capital in human capital formation and human development is discussed in Sections 3 and 4. Section 5 highlights the development of competencies for college readiness. This section also explains the various components, variables, and measures in the literature associated with college readiness behaviour. It includes a synthesis of the existing empirical studies that examine components of college readiness and its relationship with student access and success, specifically those related to transition, persistence and completion of higher education degrees by students from diverse backgrounds. Section 6 presents some empirical evidence on college readiness levels from the existing data sets (NSSO and

CPRHE studies). Section 7 delineates the strategies designed by various countries, including India, to develop college readiness attributes and propose a national policy for college readiness in India. Section 8 presents a summary and conclusion of the chapter.

College Readiness from The Perspective of Human Capital Formation, Human Development and Commitment to Social Justice

In this section, the theoretical perspective underlying this paper is presented. The focus is on the achievement of college readiness by diverse learners, which can be considered an issue of human capital formation, human development, and commitment to social justice. Graduating from college is associated with numerous economic and social benefits for students, society, and the economy. As more students from disadvantaged groups enrol in higher education, their success is crucial for promoting our nation's competitiveness and our ability to uphold constitutional commitments to social justice. The paper first discusses the rationale for investing in college readiness from the perspectives of human capital formation, human development, and social justice.

Human Capital Rationale for College Readiness

The human capital theory suggests that investing in people yields economic benefits for individuals and society. Human capital is created through investment in health, knowledge, skills/characteristics (innate and acquired) and resilience (World Bank, 2019), that shape people's abilities and contribute to their productivity. Along with land and equipment, people's ability (human capital) is considered to be one of the factors of production functioning in an economy (Schultz, 1961; Becker, 1962; Becker, 1964). Empirical evidence supports the notion that investment in human capital has been one of the most critical factors contributing to economic growth in recent decades (Engelbrecht, 2003). Health, nutrition, training and education are the most essential forms of human capital investment. Empirical evidence further suggests that investment in education and training enables growth of human capital, increases future productivity, and positively influences all forms of human capital. It also enhances economic capabilities and personal incomes, and improves health and nutrition (Schultz, 1961; Becker, 1964; Schultz, 1981).

Access to higher education: Influence on human capital formation

Access to higher education incrementally improves individual earnings by providing better career opportunities and access to subsequent economic

opportunities (World Bank, 2012). More specifically, access to higher education is seen to improve key components of human capital – 'capacities or skills of a cognitive, physical, social and psychological nature' (Taubman and Wales, 1974) –helpful in earning a living and improving peoples' productivity. According to Taubman and Wales (1974), higher education is seen to 'increase inherited skills by developing a person's cognitive and affective attainment levels and consider higher education capable of teaching a person general facts, specific tools, and general problem-solving techniques. In addition, it can influence a person's behaviour by making him more tolerant of diversity, better able to stand stress, a better leader, and more disciplined mentally. All these cognitive and affective behaviour aspects could make a person a more productive and effective worker" (pp. 25-26).

Empirical evidence suggests that human capital increases as people acquire additional qualifications, with private returns to higher education being consistently substantial and high over time (Zimmerman, 2014; Psacharopoulos and Patrinos, 2018). Empirical evidence also shows an inter-relation between increasing wages with each educational level, with the rise being sharpest after a higher secondary level of education and the earning advantage associated with higher education graduates (Madheswaran and Singhari, 2018). Since levels of education and experience impact personal income dispersions, access to higher levels of education is considered to influence the nature and causes of income inequalities (Mincer, 1984). Access to higher education is linked to the accrual of private returns in economic terms, which benefit the individual and play a central role in the intergenerational transmission of advantage (Jerrim and Macmillan, 2014).

The Field of study: Its influence on human capital formation

While enrolment in higher education is important, the magnitude of the rate of returns from higher education accrued is related to the field of specialisation that students choose to study. Empirical evidence points to heterogeneous returns to higher education with learning gains associated with specific subjects, duration (level of study), and programme selectivity (Altonji et al., 2012; Hastings et al., 2013; Altonji and Zimmerman, 2018). Using data from the 2009 American Community Survey, Altonji et al. (2012) showed a wage gap between male electrical engineers and male general education majors similar to the gaps between college and high school graduates. A study by Hastings et al. (2013) in Chile showed that admissions to selective degrees and degrees in health, social science, or science/technology yielded positive and significant earnings gains. This study linked college application records for students

applying to college between 1982 and 2011 to administrative tax return data from 2005 through 2012 using unique national identification numbers.

While a study by Hastings et al. (2013) found that students from low- and high-socio-economic status (SES) backgrounds benefited from admission to selective health, science and technology, law, and social science degrees, "students from high SES backgrounds realised large earning gains (30.7 per cent) from attending high-selectivity business degrees, wherein soft skills, social or familial networks, and networking skills may be more valuable, while students from low-SES backgrounds did not realise any gains at all" (Hastings et al. 2013, p. 3). The results of this study imply that for greater economic opportunity and narrowing earnings inequalities, educational policies should focus on increasing the number of low SES students qualifying for and choosing degrees at selective higher education institutions.

The Human Development Approach to College Readiness

Importantly, attaining advanced levels of education has been acknowledged to have social returns and is a source of human development (Ul-Haq, 1995). The human development approach (Ul-Haq, 1995), with its theoretical underpinnings in the capability approach (Sen, 1992, 1999; Nussbaum, 2000), focuses on improvement in human well-being and recognises the centrality of building human capital to support economic growth. The importance of education and knowledge is central to the human development approach, and it places importance on "outcomes of development" reflected in the quality of people's well-being. Articulating the shift in perspective, Mahbub-Ul-Haq observed, "For long, the recurrent question was: How much is a nation producing. Increasingly, the question now being asked is: How are its people faring? Income is only one of the options—and an extremely important one—but it is not the sum total of human life. Health, education, the physical environment and freedom may be just as important" (Ul-Haq, 1995).

From the perspective of human development, education is an important core value, as it expands human freedom, both as a goal (to increase people's real freedom) and as the means to achieve the goal (Sen, 1999). Regarding human development as human freedom, UNDP (2010) defined human development as expanding people's freedoms to live long, healthy, and creative lives, advancing other goals that they have reason to value, and engaging actively in shaping development equitably and sustainably on a shared planet. People are both the beneficiaries and drivers of human development, as individuals and in groups. And it was pointed out in the Human Development Report, 2016, "Human development is all about human freedoms: the

freedom to realise the full potential of every human life, not just of a few, nor of most, but of all lives in every corner of the world—now and in the future" (UNDP, 2016).

Two aspects of freedom are important—"freedom of well-being, represented by functionings and capabilities, and freedom of agency, represented by voice and autonomy. Functionings are the various things a person may value being and doing—such as being happy, adequately nourished, and in good health, having self-respect and participating in the community's life. Capabilities are the various sets of functionings (beings and doings) that a person can achieve. Agency is related to what a person is free to do and achieve in pursuit of whatever goals or values he or she regards as important. Both types of freedoms are absolutely necessary for human development." (UNDP, 2016). In other words, higher education (HE) has the potential to enlarge people's freedom to do and be what they value and have reason to value.

Such forms of intrinsic value of HE translate into people's well-being, ability to exercise their freedoms and agency, and develop their competencies to stand for social justice (Sen, 1999). It strengthens the possibilities of learning about oneself, critical thinking, and civic participation (Robeyns, 2006). The benefits of successfully achieving college readiness to complete HE contribute to raising human capital and promoting human development.

Further, the human development perspective is based on providing equal opportunities for expanding individual capabilities or freedoms and recognises that human development is a process of enlarging people's choices (UNDP, 1990). The capability approach recognises that there are diverse conditions in which people make choices and that social factors affect these choices that convert resources into functionings. The conversion factors are personal, social, economic, and other environmental differences that explain why individuals benefit differently from the same resource bundle (Robeyns, 2006). Calitz (2019) has provided a clear example of how conversion factors impact the development of capabilities in the context of participation in higher education. Calitz (2019) gives an example of an unsafe commute from home to the campus is a limiting conversion factor that can explain why some students may not use libraries after dark. Because of the environmental condition (an unsafe environment that threatens safety), "a student is not free to convert a resource (for example, a book in the library) into engagement with knowledge" (Calitz, p. 54).

The notion of human development has also widened in terms of its dimensions. It was recognised that the measure of human development does not capture the distributional dimensions of human development—the averages conceal wide disparities in the overall population—and calls for a more distribution-sensitive analysis

of human development (UNDP, 1990). Over time, the human development approach has given importance to the values of equity and sustainability. The human development perspective calls for universal human development. It recognises the detrimental role of structural barriers emanating from geographic, social, and economic factors in the functioning of individuals belonging to these groups. Overcoming the unequal distribution of opportunities to realise their full potential will necessitate putting at the centre of development interventions empathy, tolerance, and moral commitments to social justice (UNDP, 2016). The following section discusses the role of economic, social, cultural, and psychological factors in human capital formation and human development.

Role of Economic Capital, Social Capital, Cultural Capital, Cognitive and Psychological Capital in Human Capital Formation

In order to improve college access and completion for all, including those from the socially and economically disadvantaged groups (SEDGs), academic literature delineates the economic, social, and cultural factors determining the likelihood of students gaining access to higher education and their decisions about whether they want to attend college. In the decision-making process regarding the choice of a college, when students decide whether and where to attend college and what to study, theoretical models have adopted either an economic approach (Becker, 1993; Hossler et al., 1989) or a socio-cultural approach (McDonough, 1997).

Economic Capital and Formation of Human Capital

As regards decision-making, the rational choice theory of behaviour is rooted in the human capital perspective (Becker, 1993), which emphasises the economic rationality of individuals making investments to maximise gains in relation to costs. The rational choice to go to HE is based on an economic decision which takes into account access to necessary college information (in terms of college choice, discipline choice, and employment opportunities after completing college) and weighs that information relative to the costs (for example, costs in time, money, and distance) that will be incurred to acquire knowledge and skills for financial gains and in terms of upward mobility (Hossler et al. 1989; Paulsen, 1990).

Hossler et al. (1989) specified three stages of the decision-making process in the process of selecting a college. These stages are mainly related to students who enrol immediately after high school. The proposed stages are the pre-disposition stage of deciding whether to go to college, the stage for searching for information about the college, and the choice phase. The predisposition phase is traced from early childhood

to tenth grade, when students become interested in attending college as they develop educational and occupational aspirations. The search phase for college-related information by students and parents occurs from the ninth through the twelfth grades, and the decision of where to go to college is taken in the choice phase (end of year 12). The cost-benefit analysis in the college–choice model has been critiqued, especially in terms of its limitations of being unable to account for differences arising due to students' economic, social, and cultural contexts (Perna, 2006). Research points to inequalities in access to conditions supporting predispositions to go to college, planning, and accessing adequate information and financial support to decide to enrol in college.

Studies have shown that economic capital (that is, family income/finances) has a positive relationship with college enrolment and college-related decisions after controlling for measures of academic ability and achievement, tuition and financial aid, and tastes—measured by parental education (Ellwood and Kane, 2000). Economic barriers such as the inability to contribute towards tuition costs or borrowing constraints impede the college choice process even when a cost-benefit analysis has been performed (Fitzgerald, 2004; Paulsen and t. John, 2002).

Research suggests that taking rational action is also a constraint for students from low socio-economic backgrounds as they are more likely to attend under-resourced high schools (Orfield and Lee, 2005) and receive inadequate college counselling, and are less likely to acquire information needed to perform cost-benefit analysis (McDonough, 2005). Socio-cultural models of college access (Coleman, 1988; Bourdieu and Passeron, 1990) have connected family social class and socio-cultural factors with the college-going decision-making process and educational outcomes. Social capital and cultural capital perspectives will be discussed next.

Influence of Social Capital on Human Capital Formation

A growing body of research argues that different forms of capital are necessary for learning and influencing human capital formation. These include social capital (Coleman, 1966; 1988), cultural capital (Bourdieu and Passerson, 1990), positive psychological capital (Luthans et al., 2006), and a variety of socially and economically valuable personality traits, also termed as non-cognitive skills required for economic success.

Coleman (1988) defines social capital as a productive relationship that leads to advantageous behaviours or outcomes within a social system. He argues that social capital, like human capital, is a productive resource that facilitates the action of

individuals to achieve their interests, making possible the creation of human capital. Social capital exists in "relations among people, is defined by its function, and is embedded in the structure of social relations between actors and among actors" (Coleman, 1988, p. 98).

In other words, social relations become valuable capital resources for the development of individuals. Access to information embedded in social relations and norms is a form of social capital that facilitates action. The source of social capital lies both within and outside the family. Social capital within a family signifies the nature and strength of the relationship between a parent and child. Strong family ties provide access to human capital embodied in parents and play a crucial role in promoting educational success. Social capital outside the family implies social relationships among parents and institutions within the community.

By analysing a random sample of 4000 students from public schools, Coleman (1988) showed the effects of lack of social capital on the likelihood of dropping out of school. The factors that were found to affect educational outcomes included the socio-economic status and education of parents, type of family (single-parent/two-parents), number of siblings, and mother's expectation from a child going to college. The results suggested that social capital is a resource for the children's education in the family. Controlling for financial capital and parents' education, the study found that sophomores with one sibling, two parents, and a mother's expectation of college, had lower drop-out rates than those with four siblings, single-parent, and no expectation of the mother about college. Family characteristics such as the parents' educational levels are also related to gaining of access to social networks (relationships with peers, parents' friends, teachers, and social community) that help students acquire information about college. Families with strong social networks help in the formation of social capital among students, which, in turn, positively impacts the formation of human capital (Coleman, 1988).

Influence of Cultural Capital on Human Capital Formation

The social reproduction theory (Bourdieu, 1979) argues that knowledge, abilities, or skills that are rewarded (cultural capital) in a social context (fields) constitute an important resource for acquiring economic capital and social capital. The social reproduction theory (Bourdieu and Passerson, 1990) postulates that social status background factors in the form of cultural capital provide social advantages and privileges in gaining college access, the college choice process, and academic outcomes. Cultural capital gets transmitted from generation to generation, with some

groups gaining advantages and privileges socially reproduced across generations. Very Often, the ability to activate other forms of capital for personal advantage depends on a system of beliefs, tastes, and preferences (habitus) derived from one's family background and class standing. According to Bourdieu (1986), cultural capital is "that which is convertible, on certain conditions, into economic or social capital and may be institutionalised in the form of educational qualifications" (p. 243).

Cultural capital in educational research is analysed through the lens of cultural knowledge, and the value that students' families place on college access and attainment (Perna, 2006). Several studies on college access and choice behaviour (that is, whether and where to attend college, and the choice of discipline) have found that the likelihood of gaining college access is closely associated with three factors working in combination with each other: the socio-economic background of students, parents' education, and their occupation status (McDonough, 1997). There is evidence to suggest that students from socially disadvantaged groups (like students of colour), low-income students, and those who are the first in families to attend college are far less likely to enrol in college than their peers from the advantaged social groups, middle- or high-income students (Ishitani, 2006; Ross et al., 2012).

Parents play an important role in guiding their children's aspirations, discussing college plans, helping children seek information, and saving for college. Students who belong to privileged socio-economic groups and have parents with higher educational qualifications inherit, acquire, and develop different forms of cultural capital than those from the disadvantaged groups (Bensimon, 2007). Empirical investigations of the influence of family characteristics on children's academic outcomes emphasise the important role of the parents' level of education as a mediating factor in children's academic achievements and in preparing them for success in college (Olson and Rosenfeld, 1984; Lareau, 1987; Paulsen, 1990). The parents' educational level influences the basis of the college-going decision-making process in terms of whether, where, and what to study in college. It helps students gain access to avenues of social capital formation.

Parents' knowledge about college is also a proxy for high-status cultural capital and figures prominently in the involvement of parents in their children's college preparation. The engagement of parents also varies by socio-economic status. High-SES-status parents are more likely to have gone to college than their low-SES-status counterparts and are more likely to know about the process of planning for college (McDonough, 1997). In contrast, parents from a low SES status may not even be aware about the existence of such a process (Tierney and Auerbach, 2005).

Like cultural capital, students draw on social resources to shape their expectations and for college preparation.

While cultural capital is often used to reinforce the power and influence of culture in society, a framework for cultural integrity proposed by Tierney and Jun (2001) argues for accounting for family culture in college readiness programmes for students from disadvantaged social backgrounds. This cultural integrity framework reconceptualises the deficit notion of culture by emphasising the affirmation of students' cultural identity as comprising a set of positive traits in the learning process that influence the success of students from low socio-economic backgrounds. For example, nurturing family characteristics (Gordon, 1995) for African-Americans and communal funds of knowledge (Velez-Ibanez and Greenberg, 1992) for Latinos represent the cultures of students that can nurture and empower them as they guide their thoughts and behaviour. Interaction between two micro-systems, community, and school, can help improve college readiness for students from disadvantaged groups.

Kolluri and Tierney (2019) put forward the 'theory of cultural integrity', which emphasises that experiences of access to college are informed by the complex and stratified socio-cultural realities wherein students are situated. The cultural realities of students inform their decision-making process regarding college access, in addition to 'rational choice theory', which emphasises that students engage in self-interested decision-making processes grounded in information and choice. Bounds to rationality in the decision-making process of college access are imposed by incomplete information about alternatives, the complexity of the computational aspects of the cost function, bounded will-power, and bounded self-interest (family obligations), which, in turn, are influenced by socio-cultural circumstances and structures. On the issue of college access, the authors argue that the "information provided must take into account home languages and cultures, as providing students with more information and choices in ways that are insensitive to student cultures fails to address access inequities meaningfully.... for assessments must make efforts to avoid cultural bias, and curriculum must be designed in ways that are culturally and linguistically relevant" (Kolluri and Tierney, 2019, p. 81).

Influence of Cognitive (Academic Abilities) and Non-Cognitive Skills on Human Capital Formation

Cognitive Skills and Human Capital Formation and Human Development

While college access is essential, the rate of returns from higher education accrue to students who complete their university studies successfully. Studies show that

cognitive skills, along with the subject studied or the number of years of education, are equally important. Traditional economic growth models have used the measure of years in education (schooling) as a proxy to establish human capital as a key ingredient in individual earnings and economic development (Nelson and Phelps, 1966; Mincer, 1984; Lucas, 1988; Barro, 1991; Mankiw et al., 1992).

Recent growth models suggest that simply having access to education (measured in years) does not automatically lead to increased income mobility or economic growth. These models consider cognitive skills, in addition to the number of years of schooling, as a measure of human capital. Cognitive skills have been assessed by using test scores from international Programme for International Student Assessment (PISA) assessments in subjects like reading, math, and science. These studies show that cognitive skills (measured through intelligence tests or high-school grade point average or test scores) are associated with considerable individual returns in the labour market and influence economic growth (Hanushek and Kimko, 2000; Bowles et al., 2001; Hanushek and Woessmann, 2012; Barro and Lee, 2013; Angrist et al., 2019).

For example, using direct measures of cognitive skills from international PISA tests of maths and science abilities among pupils in 50 countries, Hanushek and Woessman (2012) showed that these measures were strongly associated with economic growth. In a meta-analysis across 24 studies, Bowles et al. (2001) found that a one-standard deviation increase in cognitive test scores was associated with an average 7 per cent increase in wages. Studies also show that among 18-year-olds, cognitive skills (as measured by standard intelligence tests) are malleable. Carlsson et al. (2015) found that by spending ten more days in education/school instruction, young adults from various backgrounds increased their performance on intelligence tests by 1.1 per cent of a standard deviation. These studies argue that learning outcomes should be improved for human capital formation, economic growth, and human development.

Differences in the development of cognitive skills are influenced by the socio-economic background of students, the level of education of their parents, and under-resourced schools. For example, in the recent PISA results (2018), performance gaps related to socio-economic status were observed in almost all the countries participating in PISA 2018 (OECD, 2019a). Students who were disadvantaged as compared to their peers in their country were less likely to attain the minimum level of proficiency in maths, reading, and sciences. Sullivan and Brown (2013) attributed social inequalities in cognitive scores at age 16 to parental cultural resources in the form of their education. Parents' education was strongly linked to vocabulary (linguistic fluency), and proficiency in spelling and mathematics. The results emphasised the relative

importance of parents' cultural resources as compared to material resources in influencing class differentials in educational outcomes.

Psychological Capital/Non-Cognitive Skills and Human Capital Formation and Human Development

Along with measures of cognitive capital, positive psychology capital predicts cognitive performance, improves learning, and contributes to workers' productivity and the possibilities of human capital development. According to Luthans et al. (2004), Psychological Capital (PsyCap) "is more directly concerned with 'who you are' and more importantly 'who you are becoming' (that is, developing one's actual self to become the possible self" (p. 388). The Positive PsyCap of individuals consists of the following capacities:

An individual's positive psychological state of development is characterised by: 1) confidence (**self-efficacy**) to take on and put in the necessary effort to succeed at challenging tasks, (2) making a positive attribution (**optimism**) about succeeding now and in the future; 3) preserving toward goals, and when necessary, redirecting paths to goals **(hope)** to succeed; and 4) when beset by problems and adversity, sustaining and bouncing back and even beyond **(resiliency)** to attain success (Luthans et al., 2004, p. 388).

Empirical evidence (Vanno et al., 2014; Liran and Miller, 2019) suggests an association between PsyCap components and the academic outcomes of university students. For instance, empirical findings from the study (Liran and Miller, 2019) investigating the relationship of PsyCap with academic adjustments of university students explained a relatively substantial part of the variance (74 per cent) in students' academic adjustment. Their results highlighted hope and resilience as potential factors underpinning their academic success, with resilience being particularly relevant to a person's psycho-emotional well-being.

The Big Five personality framework—Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism—as delineated by McCrae and Costa (1996), is a similar model to the positive PsyCap model that links the psychological qualities of individuals with their behaviour, thoughts, and feelings across situations. Meta-analysis studies have reported a positive association between Big Five domains and academic achievements, with the Big Five personality traits predicting academic success after controlling for socio-demographic variables, school grades, and cognitive abilities (O'Connor and Paunonen, 2007; Poropat, 2009). Studies also show that social gaps in academic performance can be reduced for specific sub-groups (for example, Black

Americans) by focusing on students' attitudes and behaviours. The most promising non-cognitive factor was related to the development of academic mindsets (socio-psychological attitudes: belonging to the academic community; the belief that ability and competence grow with effort; the beliefs that 'I can succeed at this'; 'this work has value for me') to reduce stereotype threats (Aronson et al., 2009; Farrington et al., 2012).

Specifically, studies show the ability to be conscientious or the "tendency to be organised, responsible, and hardworking", as suggested by Heckman and Kautz (2012, p. 5) to be most strongly correlated with attainment and labour market outcomes (Conti and Heckman, 2014). Research also shows that non-cognitive skills related to motivation, time management, and self-regulation are critical for later life outcomes, including success in the labour market (Heckman and Rubinstein, 2001). Additionally, the psychological construct 'grit', which involves perseverance, motivation, persistence, zeal, and tenacity, strongly predicts success (Duckworth et al., 2007). This strand of research studies asserts that non-cognitive skills or personality traits are relatively malleable, open to development, and can be shaped through public policy interventions (Cunha & Heckman, 2009; Heckman and Kautz, 2012).

Development Of Competencies and College Readiness

Developing psychosocial competencies for success in education and labour market outcomes has been a parallel development as a rationale for investing in higher education. The notion of developing specific competencies through higher education has acquired remarkable importance in higher education worldwide, especially across Europe. This has been partly due to the creation of the European Higher Education Area (EHEA), which has propelled the need to develop standardised academic curricula by incorporating various concepts and techniques. The OECD's Definition and Selection of Competencies (DeSeCo) Project defines competency as "more than just knowledge and skills. It involves meeting complex demands by drawing on and mobilising psychosocial resources (including skills and attitudes) in a particular context" (OECD, 2005).

The DeSeCo project recognises that students' success depends on a wide range of competencies that go beyond the mere assessment of knowledge and skills in reading, mathematics, science, and problem-solving, as included in PISA assessments. It categorises key competencies into three broad categories interlinked in an integrated approach: the ability to interact in socially diverse groups, to act autonomously, and to use tools such as language and technology interactively. Competencies have been

conceptualised for use in different combinations in varying contexts. The OECD DeSeCo project classifies key competencies as follows:

"First, individuals need to be able to use a wide range of tools for interacting effectively with the environment: physical ones such as information technology and socio-cultural ones such as the use of language. They need to understand such tools well enough to adapt them for their purposes—to use tools interactively. Second, in an increasingly interdependent world, individuals need to be able to engage with others. Since they will encounter people from various backgrounds, they must be able to interact in heterogeneous groups. Third, individuals need to be able to take responsibility for managing their own lives, situate their lives in the broader social context and act autonomously." (OECD, 2005.)

These are also termed '21st-century skills', essential for functioning effectively in an increasingly diverse and interconnected knowledge society**.** These skills include three dimensions of abilities: master, manage, and make sense of available information; communicate and engage with diverse others; and act based on ethics with a concern for social impact. The ability of individuals to think for themselves and take responsibility for their learning and actions lies at the centre of DeSeCo's framework (Ananiadou and Claro, 2009).

The OECD Future of Education and Skills 2030 Project (OECD, 2019b; 2019c) has proposed a learning framework called OECD Learning Compass 2030 (Figure 1). The framework offers a set of competencies and skills that students will require for achieving success in the 21st century and beyond. These competencies are defined as the ability and capacity to carry out processes and to be able to use one's knowledge in a responsible way to achieve a goal. The OECD Learning Compass 2030 distinguishes between three different types of skills: cognitive and meta-cognitive skills, which include critical thinking, creative thinking, learning-to-learn and self-regulation; social and emotional skills, which include empathy, self-efficacy, responsibility, and collaboration; practical and physical skills, which involve using new information and communication technology devices. (OECD, 2019a).

The Learning Compass emphasises the need for students to learn to navigate by themselves in unfamiliar contexts and make meaningful and responsible decisions. The Learning Framework comprises seven key elements, including the development of core foundational competencies, such as acquiring and mobilising knowledge, attitudes, and values, including literacy, numeracy, digital literacy, and social and emotional skills. These competencies are essential pre-requisites for further learning across the curriculum and for meeting complex demands.

The transformative competencies involve creating new value, reconciling tensions and dilemmas, and taking responsibility. The framework also emphasises the importance of student agency and co-agency, which consists of developing identity, a sense of belonging, and a growth mindset to navigate towards well-being with the mutually supportive co-agency of peers, teachers, and the community.

The framework also emphasises the significance of knowledge, including disciplinary, interdisciplinary, epistemic, and procedural knowledge, and the development of cognitive and meta-cognitive skills, social and emotional skills, practical and physical skills, and attitudes and values of well-being. Finally, the framework includes the Anticipation-Action-Reflection cycle, an iterative learning process whereby learners continuously improve their thinking and act intentionally and responsibly.

The OECD Future of Education and Skills 2030 Project aims to help the education systems of different countries in developing a learning environment to nurture such competencies (OECD, 2019c). As a starting point, while the focus is on secondary education, the framework recognises the importance of the applicability of project principles to all levels of learning. Efforts to raise levels of college readiness in students with individualised coaching on the skills needed to succeed at university and in the knowledge world thus signify an essential avenue for forming human capital, developing competencies, and achieving success in life.

India currently ranks 134 (medium human development) out of the 189 countries included in the HDR, making investments in education and higher education crucial (UNDP, 2024). In view of the inequitable access to learning opportunities and unsupportive institutional conditions for raising readiness levels for academic success, it is difficult to achieve economic or human development even when access to higher education is provided. Necessarily, therefore, the levels of human capital formation or expansion of students' human capabilities rest upon narrowing the gap between being eligible for access to HE and being *ready* for achieving success in higher education.

College readiness is a condition contingent upon the development of human capital and higher-order analytical competencies relevant to the knowledge society, which enables human beings to flourish, and contributes to national economic growth. Being prepared for college increases the likelihood of retention, academic integration, and completion of college (Bettinger and Baker, 2014). Completion of college is also associated with increased earnings, acquisition of skills and knowledge relevant to the knowledge economy, improved chances of inter-generational social mobility, and overall social equality.

College education is increasingly becoming important for economic and social success, with India moving towards higher levels of massification and educational opportunities now available to a larger group of students and not just the elite in the country. In this context, the manner in which higher education institutions are preparing themselves to support diverse learners for their development and academic success is a cornerstone agenda in the discourse on college readiness for all. Student development comprises college readiness attributes, knowledge, and behaviour supported by HEIs to inclusively integrate diverse learners in academic and social spheres on campuses for their educational success. The following section discusses the components of college readiness attributes for gaining access and persisting through higher education.

College Readiness Attributes

Globally, while widening access to higher education is an important goal, it is a challenge to simultaneously ensure students' academic success, making this a global concern (UNESCO, 2016). Universities across the world struggle to improve graduation rates of students from diverse backgrounds, particularly as preparation in schools appears inadequate. Conley (2007) has argued that high school often needs to adequately prepare students with the skills needed to take college-level courses, which are generally faster-paced and require students to engage in more high-level tasks.

College readiness is broadly defined as "the level of preparation a student needs to enrol and succeed—without remediation—in a credit-bearing general education course at a postsecondary institution that offers a baccalaureate degree or transfer to a baccalaureate program" (Conley, 2007, p. 5), and persist till graduation. 'Succeed' in this context is defined as possessing knowledge and skills to "complete entry-level courses with a level of understanding and proficiency that makes it possible for the student to be eligible to take the next course in the sequence or the next level course in the subject area" (Conley, 2007, p5).

Student success has also been defined in various other ways. To better understand student success, Kuh et al. (2006) proposed a definitive way to define it, by using measures of academic achievement, such as college entry scores, college grades, performance on disciplines, and credit hours earned in consecutive terms, which represent progress towards degree completion. Student success is also measured as postgraduate enrolment, post-college employment, and earning an income.

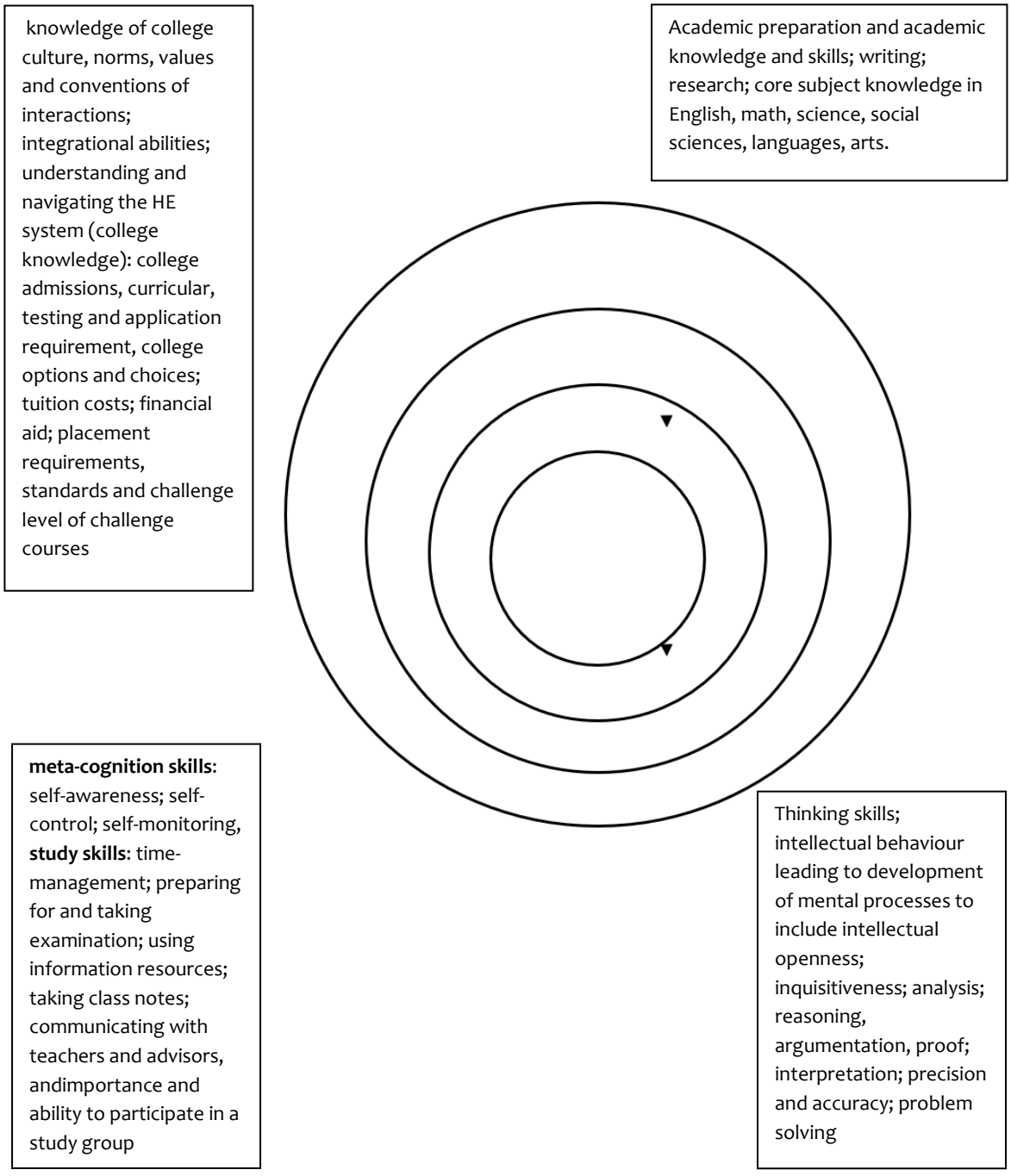
Since student success is multi-dimensional, college readiness is diverse and includes multiple constructs (Figure 1). The framework on college readiness

components includes variables that need to be mastered for college readiness and can directly be influenced by HEIs. A popular readiness framework developed by Conley (2012) identifies the following four domains for students' development for college readiness: a) key cognitive strategies, b) key content knowledge, c) academic behaviour (self-monitoring, time management, and study skills), and d) contextual skills and knowledge (knowledge of post-secondary educational requirements and the culture of college).

The key cognitive strategies are intellectual behaviours important for college-level work (for example, problem formulation, research, interpretation, and communication). Key content knowledge includes the structure and fundamental content of core subjects. Academic behaviour includes learning skills and learning techniques (for example, study skills, strategic reading) and ownership of learning (for example, goal setting and self-efficacy). Key transition knowledge and skills include the information that students need to transition successfully (for example, college costs, college majors, and career choices).

This multidimensional construct of college readiness attributes developed by Conley has been empirically studied over several years, using qualitative and quantitative methods in different socio-economic and schooling contexts, along with a wide range of stakeholders' perspectives in North America (Conley, 2008; 2010) as well as in South Africa (Wilson-Strydom, 2011).

Figure 1: Facets of College Readiness



Source: Adpated from Conley (2007)

The following section outlines the essential components of college readiness, ranging from gaining access to college to persisting through higher education.

College Readiness as An Attribute to Gain Access

As regards college access, college readiness attributes include prior academic preparation, aspirations to attend college, and knowledge of the college admission process to gain college access. In the context of widening participation in college education in the UK, Hart (2014) proposed the capacity to aspire as the meta-capability influencing the transition to university. College knowledge refers to understanding the procedural requirements, how to apply to college, and how to manage financial aid issues (Conley, 2005; Corwin and Tierney, 2007; Hooker and Brand, 2010; Perna and Steele, 2011; ConnectEd, 2012; McAlister and Mevs, 2012). The choice of subjects, college choice, securing financial resources and completing college applications are essential components of college knowledge.

Economic, socio-cultural, and structural (social background and quality of school) factors have been identified as influencing academic preparation and students' likelihood of going to college in theoretical frameworks of college access (Bourdieu and Passeron, 1990; Perna, 2006; Winkle-Wagner and Locks., 2014). Academic preparation/credentials are defined primarily in terms of high school courses taken, grades received (or scores achieved on national tests), meeting the minimum entrance requirements for college, and content knowledge. In India, the medium of instruction in schools is an important factor that affects academic capabilities and performance. When students are taught in their regional language during early education, transitioning to higher education where the medium of instruction is English can be challenging. The requisite academic skills required to pursue college-level courses include drawing inferences, interpreting results, analysing conflicting sources of information, supporting arguments with evidence, and thinking deeply about material. Studies have shown that the academic intensity or rigour of students' high school curriculum is positively related to several college outcomes, including the avoidance of remediation and attainment of graduation (Adelman, 1999; 2006; Adelman et al., 2003; Conley, 2010; Wyatt et al., 2012).

For example, in the study by Wyatt et al. (2012), the college readiness indicator related to measuring academic capabilities consisted of three indicators: SAT scores, high school GPA scores (HSGPA), and an academic rigour score. The authors calculated an Academic Rigour Index (ARI) for students completing the SAT questionnaire obtained from the 2007 college-bound senior cohort. ARI is a composite measure of the difficulty or rigour associated with students' high school coursework. The index was calculated on the basis of student responses to the SAT questionnaire, which collects information on English, math, science, social science/history, and foreign and classical

language courses completed during high school. ARI was positively related to high school achievement measures, college enrolment, and college performance, suggesting that academic rigour is important in preparing students for college-level work.

The study further shows that retention in the second year of college increased as the students' ARI scores increased. Students with a score of 4 had a 76.2 per cent retention rate, with retention rates gradually rising along the scale to end with a retention rate of 97.8 per cent for students with an ARI score of 25. Studies suggest that such academic variables have links with a range of cognitive capabilities, including analysis, interpretation, precision and accuracy, problem-solving, and reasoning (Connect Ed, 2012; NRC, 2012). Academic under-preparation requires remediation, and unprepared college students may be guided to take remedial classes upon college entry (Von Secker, 2009).

College Readiness as An Attribute for Transition and Persistence

Along with academic variables, of equal importance are the attitudes and behavioural attributes that also help shape the students' readiness to do college-level work and persist through college. The transition into college, specifically the students' first year, is marked as a period of identity development influenced by the development of cognitive, emotional, and social processes. Meeting the developmental demands of college necessitates behavioural, problem-solving, and coping skills that allow students to successfully manage new environments, and the academic and social demands of college. Literature suggests that while students must possess a diverse range of academic competencies that affect the cognitive factors that are crucial to attain success in higher education, achieving academic success for college students equally depends on non-academic factors (mindsets and behaviours), social skills, and knowledge of college culture for meeting the development demands of college. These are also called non-cognitive capabilities related to motivation, time management, and self-regulation, which are critical for later life outcomes, including success in the labour market (Heckman and Rubinstein 2001).

Non-cognitive factors include mind-sets and college-ready behaviour. Mind-sets signify the attitudes, beliefs, and emotions that students have about themselves and towards their college (Tinto, 1993; Dweck et al., 2011; Tinto, 2017). College-ready mindsets and behaviour involve long-term goal-setting that helps in persistence, information-seeking and time management skills, study habits, study skills, time on task completion, and self-regulation (Robbins et al., 2004; Farrington et al., 2012).

Tichavakunda (2019) offers an empirically tested comprehensive framework on non-cognitive factors of college readiness. The study divides non-cognitive factors into the following five categories: (a) academic behaviours, (b) academic perseverance, (c) academic mindsets, (d) learning strategies, and (e) social skills. Indicators of academic behaviours include attending class, doing homework, and organising study materials. Academic perseverance refers to a student's engagement and effort to complete a school-related goal despite challenges. Grit is an example of academic perseverance: "The gritty individual approaches achievement as a marathon; his or her advantage is stamina" (Duckworth, Peterson, Matthews, & Kelly, 2007, in Tichavakunda, 2019).

Academic mindsets refer to one's beliefs about academic work. Such mindsets include self-efficacy and locus of control. These mindsets impact academic performance by influencing people's belief in their ability to succeed and what they can control about their academic outcomes. Learning strategies are student-directed study skills, such as time management and goal-setting, necessary for achieving higher education success (Conley, 2007). Social skills refer to the behaviours needed to build relationships with professors, administrators, staff, and other students (discussed later in this section). Such skills include cooperation, empathy, and responsibility (Conley, 2007, p. 927). College-ready behaviour leads to the development of academic behaviour, which enables students to engage with content, maximise learning, and impact the cognitive factors measured for college readiness (for example, test scores or grades) (Conley, 2012; Kuh, 2007).

Based on an extensive literature review, Nagoaka et al. (2013) found five general categories of non-cognitive factors related to academic performance. These included academic behaviours, academic perseverance, social skills, learning strategies, and academic mindsets. They further emphasised that the development of non-cognitive factors for college readiness rested on equity orientation of interactions and relations between students and institutions. They state that "college success rests on a combination of the cognitive and non-cognitive factors that students bring from high school to the post-secondary context, and the post-secondary context itself. It may be helpful to think about college readiness as a property of student interactions and the college context. Students' likelihood of attaining a degree depends on the institutional characteristics of the colleges they attend. Students, particularly first-generation college students, may require differing resources and supports to successfully transition to college" (Nagoaka et al., 2013).

College Readiness and Campus Integrational Factors

The third component of college readiness is campus integration capabilities. These capabilities are related to social skills, which enable the development of relationships with oneself and others (Duncheon, 2015), and a knowledge of college culture. Tinto's social and academic integration (socialisation) model, one of the most influential theories regarding student retention, postulates that the more a student is invested in the classroom/academic sphere and social sphere, the greater is the academic integration and the likelihood of persisting through college. Social integration refers to students' participation in co-curricular activities and investment in informal friendship. This theory has been criticised for promoting the assimilation of minority students and pressuring students from minority groups to deny their cultural backgrounds to fit into campus (Tierney, 1992). Tinto (2017) reconceptualised the academic-social integration model to view the impact of institutional efforts to include minority students and develop their self-efficacy, the sense of belonging, and perceptions of the value they accord to the curriculum.

Awareness about the culture of college and cultural expectations of higher education are important components of knowledge that facilitate adjustment to college. Access to information about college culture helps students understand how to interact with professors and peers, and navigate college as a social system (for example, the ability to handle prejudice and stereotypes) and the learning environment. College culture also includes knowing the visiting office hours, avenues of seeking information, knowledge on the library and its benefits, and submitting assignments on time. Research has shown that such inferred cultural knowledge is necessary for postsecondary success but may be unfamiliar to many first-generation students (Byrd and Macdonald, 2005; Collier and Morgan, 2008).

First-generation learners and students from some communities may be more vulnerable than others to this culture shock. This situation stems from the need for more awareness of the culture, values, and expectations of postsecondary contexts, which differ from those of secondary schools (Conley, 2007).

Along with cultural expectations of college culture, notably in campus integration, studies suggest that possessing a productive self-concept enables students to develop social skills and adapt to higher education settings. Developing social skills involves cultivating a strong relationship with oneself and a relationship with others. A relationship with oneself or a "productive self-concept" (Connect Ed, 2012) relates to self-esteem and self-confidence. Relationships with others include interpersonal skills for cooperation, assertion, responsibility, and empathy (Duncheon, 2015).

As regards relationship with oneself, according to Conley (2012), college-ready students translate their readiness into success in higher education settings by developing a clarified understanding of their goals, including recognising their strengths and weaknesses, and forming an academic- and career-oriented identity. In addition, college-ready students have the social skills to cultivate positive relationships with others. Social skills improve social interactions in diverse college settings, such as between peers, students and teachers, and enable engagement with the community (Aries and Seider, 2005; Sedlacek, 2004).

Similarly, another study (Byrd and McDonald, 2005) finds that participants emphasised a productive self-concept as an essential attribute of college readiness. Byrd and McDonald (2005) explore the nature of college readiness from the perspectives of first-generation college students. In addition to recognised academic skills (reading and writing), essential attributes for college readiness identified by the participants were skills in time management, the ability to apply oneself and focus on a goal, and skills for advocating for oneself as a learner (that is, the self-concept of a capable learner essential to navigate the college system).

Having confidence in one's ability to learn was identified as an essential college readiness attribute to predict student success in the study by Wilson-Strydom (2011) in South Africa. In the context of building capabilities for college readiness of high school learners and first-year university students from diverse backgrounds in South Africa, a study by Wilson-Strydom (2011) identifies a set of seven capabilities for university readiness (Panel 1). These include cultivating academic behaviours (study skills, time management, self-discipline), improving knowledge of university rules, building competence in the language of instruction, academic content and critical thinking, and having confidence in one's ability to learn. The study recommends that universities should design collaborative practices with feeder schools to allow students to develop these capabilities during their last few years at high school and their first year at university.

Panel 1: Capabilities for University Readiness

Capability	Description
Practical Reason	Being able to make well-reasoned, informed, critical, independent and reflective choices about post-school study
Knowledge and imagination	Having the academic grounding for chosen university subjects and being able to develop and apply methods of critical thinking and imagination to identify and comprehend multiple perspectives and complex problems.
Learning disposition	Having curiosity and a desire for learning, having the learning skills required for university study, and being an active inquirer (questioning disposition).
Social relations and social networks	Being able to participate in groups for learning, working with diverse others to solve problems or complete tasks. Being able to form networks of friendships for learning support and leisure.
Respect, dignity, and recognition	Having respect for oneself and for others, and receiving respect from others, being treated with dignity. Not being devalued, or devaluing others because of one's gender, social class, religion, or race. Valuing diversity and being able to show empathy (understand and respect others' points of view). Having a voice to participate in learning.
Emotional health	Not being subject to anxiety or fear that diminishes learning. Having confidence in one's ability to learn.
Language competence and confidence	Being able to understand, read, write, and speak confidently in the language of instruction.

Source: Wilson-Strydom, 2015.

Wilson-Strydom (2015) argues for a greater equality of college readiness capabilities. The author states, "Like assuming that equality of income implies equality of well-being (p. 2)", it is insufficient to assume that equality of access based on participation rates implies equality in success or the nature of justice within universities. The format for reference needs to be consistent throughout, while drawing from the capability approach framework and employing Sen's central normative questions: What kind of life is she leading? What does she succeed in being and doing? And equality of what? (Sen, 1992; 1999). This multi-level study calls for greater equality of the capabilities for college readiness to enhance student experiences, meaningfully participate in higher education, and achieve well-being as a student.

Inequalities and Status of College Readiness in India: Insights from Macro-Level Data and Primary Studies

The discussions in this paper so far have shown that the 'college readiness' agenda aims to promote fairness in academic outcomes and ensure success in college for under-represented student groups. In India, State efforts include remediation programmes to improve academic skills and address cognitive gaps, as well as orientation programmes to enhance non-academic and integration aspects for high school students. Despite improvements in higher education enrolment rates and efforts to enhance academic abilities through these programmes, social gaps in graduation rates and social inequalities still persist.

Macro-Level Insights

Empirical data (NSSO, 2014) for India shows that under-represented students, such as students from socially excluded groups and poor backgrounds, experience lower success in terms of their graduation rates. For instance, the Gross Graduation Rate (GGR) was lower for students from the poorer income groups (14 per cent and 22 per cent, respectively) than for students from the wealthiest group (61 per cent and 176 per cent, respectively). Similarly, the GGR for the Scheduled Tribes (STs) (26.5 per cent) and for the Scheduled Castes (SCs) (30 per cent) was lower than for the Other Backward Classes (51 per cent) and for 'Others' (121 per cent). This means that under-represented students such as the STs and SCs are less likely than their upper caste peers to possess a higher education degree. Moreover, private coaching in India has become a widespread and increasing phenomenon for improving college readiness in terms of academic credentials and for qualifying for competitive tests, especially for admissions to selective institutions offering STEM subjects (Sabharwal, 2020b).

Private coaching is a form of private tutoring that students and parents access to improve their performance in the qualifying tests for admission to professional courses. NSSO data (2014) shows that the average household expenditure per student on private coaching has increased. It further indicates the persistence of inequalities across economic, caste, and gender groups in expenditure on private coaching at higher secondary levels. The average household expenditure per student on private coaching in the wealthiest group was six times that in the poorest group. Students in government schools had lower access to private coaching than private schools, which would prepare them in academic domains to increase their chances of accessing and succeeding in college. Similarly, at the higher education levels, data (NSSO, 2017) shows that students attending professional and technical institutions were spending more

on private coaching to augment their skills and knowledge, as compared to their counterparts studying general courses.

Primary Studies at The Institutional Level

The study on diversity and inclusion in higher education completed by CPRHE Sabharwal and Malish, 2016 highlights a wide array of social, locational, and pre-college academic backgrounds of learners in higher education in India. A majority of the students in higher education belong to socially excluded groups and have experienced disadvantaged life circumstances stemming from poverty, their residing in under-served geographic locations, and being the first in the family to attend higher education. Students from disadvantaged backgrounds were more likely to attend high schools without the resources that aid in college preparation, were exposed to outdated syllabi, and had regional language as their medium of instruction, negatively influencing their abilities for the transition to English as a medium of instruction in higher education. Inter-group disparities in the level of academic performance persist, with students from socially disadvantaged groups caught in a low-performance trap (Sabharwal, 2020).

The author's pilot study, part of ongoing research on college readiness and student success in higher education in India, provides empirical evidence that students from socially and economically disadvantaged backgrounds face several challenges in college readiness. The pilot study, which used a mixed method approach, was undertaken in a government college. It consisted of a semi-structured interview with the institutional leader, 10 faculty members,10 students, Focus Group Discussions (FGDs) with 30 students, and survey responses from 70 undergraduate (UG) students. The study found that teachers and students often perceive learning challenges differently, owing to their unique experiences and perspectives. While teachers have a broader view of the classroom dynamics and identify patterns in student strengths and weaknesses, students experience learning challenges directly. They can provide insights into their struggles and learning styles. Following are some differences in how teachers and students identify learning challenges in colleges:

Students' perspectives:

Limited knowledge of procedural requirements and applications: The challenges related to the admission procedure included limited accessibility to higher education, a limited understanding of subject choices leading to misjudgement of interests, a lack of awareness and guidance about the admission process and the required documents;

and accommodation and commuting-related issues in Delhi, including finding the right bus routes and directions to the college.

Feelings of being welcomed in initial days: The results of a one-way Analysis of Variance (ANOVA) by a social group indicate that the scores regarding the students' feelings during the initial days, such as feeling welcomed, differed significantly among the socio-economic groups. The students from the upper caste category were more likely to agree that they felt welcomed in the initial days (M=3.11) than those from the Other Backward Classes (OBCs) (M=2.80), or the Economically Weaker Sections (M = 1.00), ($F(5, 51) = 2.53$. $p > .05$). Levene's assumption of homogeneity of variance is met as the p-value is non-significant ($F(1, 52) = 1.102$, $p = 0.366$.

On a positive note, along with students from privileged backgrounds, students belonging to the SCs (M= 3.33) and STs (M = 3.40) were likely to agree that they felt welcomed in their college during the initial days. According to the study, there were various reasons why students felt welcomed during their initial days at college. Most students felt less anxious and more comfortable since the particular college was their preferred choice. For example, among the SC group students, 86 per cent reported that the college they attended was their first choice, and the majority (86 per cent) reported that the entry requirements matched the grades/marks they had obtained in Class 12.

Nevertheless, the college's efforts to create a welcoming environment were important. This was evident in the orientation programme organised by the college and the supportive messaging provided during it. Most students from the disadvantaged groups, such as the SCs and the STs, had attended orientation programmes organised by their college, wherein the support and encouragement displayed by the teachers and administrators made them feel welcome. Students in the FGD reported being encouraged to join societies and interact with teachers.

Challenges in the academic domain: As regards the academic challenges, students from the disadvantaged social groups were more likely to feel that they found it difficult to concentrate in class (SC and ST: M=2.3), as compared to students from more privileged backgrounds (Upper Caste: M = 1.8), ($F(5, 57) = 2.82$, $p > .025$). Levene's assumption of homogeneity of variance is met as the p-value is non-significant ($F(1, 52) = 1.102$, $p = 0.366$. One of the main reasons for the lack of concentration reported by the students was related to hunger.

The FGDs highlighted that many of the students from the disadvantaged social groups attended classes without eating, thereby losing their ability to focus and concentrate in class, which affected their academic performance. Students from the

disadvantaged groups were food-insecure as they belonged to impoverished households, often had to travel long distances to reach college, and ate their first meal very early, following which they had limited and uncertain access to meals during the day. In college, students from the disadvantaged groups could not afford food in the college canteen due to financial constraints.

Besides lack of concentration, students from the socio-economically disadvantaged groups (SEDGs) highlighted several other important academic challenges during the FGDs, emanating from insufficient prior academic preparation, language barriers, and unfamiliar technical terminologies used in class. Students thus felt that they needed to be equipped to handle the increased difficulty level of the course content. They also needed help in understanding classroom interactions in Hindi due to variations in dialects across different regions, making it difficult for them to comprehend lectures.

Furthermore, some students felt that they experienced instances where teachers showed favouritism and did not take their jobs seriously, with such teachers mostly being those nearing retirement. At the same time, early career academics who were more likely to be on precarious employment terms and conditions were not provided opportunities to engage with them. Additionally, unpredictable class cancellations, an extensive syllabus, and a shortage of teachers led to heavy workloads and rushed completion, all of which contributed to the academic struggles faced by students from SEDGs.

Further, students from the disadvantaged backgrounds reported facing more challenges with study habits or possessing study skills and time management than students from privileged backgrounds. The former reported facing difficulties in taking class notes during lectures and setting study goals, like preparing for tests in advance, as compared to their privileged peers.

Study skills: The SCs, STs, and OBCs (SCs M= 2.0, STs M=2.8, OBCs M=2) were more likely to report that they found taking notes during class lectures difficult as compared to students from the privileged backgrounds (Upper Caste: M=1.8), ($F(5, 54) = 3.338$, $p = .011$). Levene's assumption of homogeneity of variance is met as the p-value is non-significant ($F(1, 49) = 1.927$, $p = 0.138$. Students in FGDs reported struggling with taking notes during lectures for various reasons. Poor oral and written communication skills in English, complex and unfamiliar terminologies used by the lecturers, and the fast delivery of lectures were some of the main factors that made it difficult for students to pay attention to the lecture and take comprehensive notes.

Study goals and time management: The following patterns emerged in relation to students finding it difficult to set and follow study goals. The SCs, STs, and the OBCs (SCs M: 2.00; ST: 1.5; OBC: 2.38 respectively) were more likely to find it difficult to study for the tests well before they are scheduled as compared to the students from privileged backgrounds (M= 2.85), ($F(5, 51)=2.691$, $p=.032$. Levene's assumption of homogeneity of variance is met as the p-value is non-significant ($F(1, 51) = 1.930$, $p = 0.138$.

Many students found that completing the entire syllabus within a given time frame is a significant academic challenge. During an FGD, students said that they believed the syllabus was too extensive and that they did not get enough time to cover all the topics. They further explained that they face more challenges related to time during the even semesters when there are numerous distractions such as fests, freshers, and farewell parties, among others.

Social and campus Integration: Students often face these difficulties in building social integration skills: feeling uncomfortable and disconnected from teachers, fellow students, and staff, which makes it hard to establish meaningful relationships; need for help in expressing themselves in a new environment and understanding how to navigate the higher education system; limited extracurricular opportunities and social/personal barriers; and the inability to handle stereotypes emerging from social dynamics, which prevent them from making friends.

Female students reported facing various safety and discrimination-related challenges, including inappropriate behaviour and harassment. They also faced discrimination based on appearance and identity, whereas students from the North-east faced regional and racial bias. Within some departments, divisions and hierarchies were observed, based on factors such as clothing, wealth, and region of origin. All these factors created a challenging social environment for the students.

Infrastructure-related challenges: Research shows that the physical characteristics of learning spaces have emotional and behavioural implications. The infrastructure-related challenges included the need for more library books, insufficient drinking water facilities, wear and tear of classroom furniture and infrastructure, and limited affordable hostel options. Such inadequate facilities can cause frustration, stress, and disengagement among students, reducing motivation and increasing absenteeism (McArthur, 2015).

Challenges facing students identified by teachers: It is important to note that teachers and students often have different perceptions of learning challenges due to

their distinct perspectives and experiences. Teachers identified specific challenges related to students' participation levels, ability to concentrate, and the teaching methods that are ostensibly particularly difficult for students. As regards concentration levels, while students reported that they could not focus in class because they were hungry, teachers cited various other reasons for their difficulty in concentrating, including mechanical or monotonous teaching methods, resulting in decreased student engagement and concentration. Additionally, the lack of connection between teachers and students in college may hinder students' academic and personal growth. Teachers thus recommended the use of Information and Communications Technology (ICT) to enhance students' classroom engagement. For example, one teacher reflected: "I think there should be less mechanical teaching and more provision of multiple teaching technology aids to remove monotony. This will also increase their concentration span."

However, some teachers also expressed concerns about the negative impact of technology on both teachers and students, such as possible complacency and lack of creativity in the learning process. One teacher said, "Technology has made teachers and students lazy because they tend to use the same resources for an extended period, which results in a lack of creative ideas."

Teachers also identified a problem of low active student participation during classroom interactions, pointing out that students often assume that the lectures by teachers are monologues wherein they only have to listen instead of actively participating in classroom interactions.

Further, they suggested that it is the teacher's responsibility to increase student engagement in the classroom. One teacher noted, "I think students can perform well in life only if teachers connect with them." The problems in college arise only because the teachers do not connect with their students. In contrast, in school, they feel more empathetic with the teachers and consider them as parents."

These insights indicate that teachers have a wider perspective of classroom dynamics and an understanding of the common struggles experienced by students. Open communication channels, such as feedback mechanisms and office hours, can facilitate greater collaboration between students and teachers, and promote a supportive learning environment.

Research also suggests that students who attend less selective colleges and universities perform worse and are at a greater academic risk than comparable students who enrol at more selective institutions which admit students on the basis of entrance tests. Thus, individuals who are already disadvantaged in society—whether

because of poverty, location, ethnicity, gender, or disability—are more likely to learn the least, access less selective institutions, and face academic vulnerabilities.

In summary, the problem of college readiness for students belonging to the socially and economically disadvantaged groups manifests at the stage of access and transition to college after entry into the academic domain, and outside the classroom in the social domain. The challenges of college readiness during the transition stage include several significant obstacles, such as financial barriers, limited access to information, inadequate academic preparation, testing and admissions requirements, cultural and linguistic challenges, and geographic barriers. This can be particularly true for students who are the first in their families to attend college or who come from communities with limited exposure to higher education.

Moreover, students from low-income families often face barriers to access to resources that can help them prepare for college, including advanced coursework, standardised test preparation, college counselling services, extracurricular activities, and financial resources to cover college expenses. Without these resources, students may struggle to compete with their peers who enjoy more advantages. Further, in the absence of accurate information and guidance, students may make uninformed decisions that can impact their college readiness and success.

In the academic and social domain at college, the issue of college readiness entails several crucial factors that affect students' success in higher education. One of the key challenges that emerged from the evidence is the level of prior academic preparation. Many high school graduates felt that they had limited academic skills and knowledge required to excel in college courses. Students may struggle to adjust to the increased and more rigorous workload, higher expectations, and more independent learning style required in college. Inadequate preparation in areas such as math, reading, writing, and critical thinking skills may also make it difficult for students to keep up with college coursework. This, in turn, may increase the risk of dropping out.

Students from diverse cultural and linguistic backgrounds may face additional challenges in college preparation. This can include language barriers, cultural differences in academic expectations, and a lack of representation and support for students from marginalised communities. Without culturally responsive and inclusive support systems, these students may struggle to navigate the college admissions process and succeed in college. In view of the growing importance of technology in education, students also need to be proficient in using digital tools for learning, research, and communication. This entails providing all students equal access to technology or opportunities to develop digital literacy skills.

Success in college depends on more than just academic ability. Students also need to possess strong non-academic skills such as time management, organisation, and effective communication. Unfortunately, many students graduate from high school without fully developing these skills, making it a challenge to transition to college. Many students also experience social and emotional challenges during the transition to college. They reported feelings of homesickness, loneliness, stress, anxiety, and depression. Without adequate support systems, students may struggle to cope with these challenges and may be at risk of dropping out or experiencing academic difficulties.

Addressing the problem of college readiness requires a comprehensive approach, comprising efforts to improve academic preparation, develop non-academic skills, increase access to resources and information, support diverse student populations, and promote their social and emotional well-being. This may necessitate collaboration between high schools, colleges and universities, policymakers, community organisations, and families to ensure that all students have the requisite support to succeed in college and beyond. The research underscores the role of HEIs in improving college readiness for student success. The next section discusses the strategies designed by countries to support the development of college-ready attributes among their students.

Policies and Strategies for College Readiness

International Policies and Practices

The earlier sections indicated college readiness attributes need to be developed across multiple domains to address the challenges of increasing student success of diverse learners. These include cognitive strategies (related to students' test scores and grades), non-cognitive strategies (related to students' academic mindsets, behaviours, and motivation) and knowledge on the choice of college and the college-going process. This section discusses the policies and strategies developed in different countries at varying stages of higher education development.

Panel 2 presents a snapshot of college readiness strategies for access and success developed by HEIs worldwide. Widening access and supporting student success has been a central agenda in countries during the stage of universalisation, while policies to support educational success have largely occupied a peripheral position in the policy discourse in countries such as India. In countries currently in a stage of massification, such as South Africa and India, the central agenda of the HE policy has been to improve higher education access for students from the disadvantaged social groups.

In countries such as the UK, Australia, USA, and other OECD countries in Europe where higher education is in a stage of universalisation (with the GER being 50 per cent), equity policies have emphasised the need for widening access and supporting student success, with many taking a student life-cycle approach. This approach covers outreach efforts with secondary schools to prepare for and enter higher education, support for transition and developing learning readiness strategies to graduate successfully and progress to employment or postgraduate studies. The aim of these policies has been to provide equality of opportunities through wider access to previously under-represented students in higher education, improve their retention, and narrow the gap in degree attainment.

United Kingdom

The widening participation (WP) agenda in the UK occupied a central position at the policy level with the passing of the Higher Education Act (2004) (Robert and Thomas, 2005). The WP policy has focused on improving access and attainment of students from lower socio-economic groups (SES), Black and Ethnic Minorities (BAME), and students residing in low-participation neighbourhoods. The WP policy accounts for diversity in the HE sector (DBIS, 2014). The National Strategy for Access and Success in Higher Education published by the Department for Business, Innovation, and Skills (DBIS, 2014) indicates that HEIs are expected to set their own priorities and targets in response to the institutional context (type and nature: for example, research-intensive, teaching intensive, Further Education providers), available resources, composition of the local population and the existing student body. Additionally, the Further and Higher Education Act of 1992 enabled polytechnics to seek university status. Therefore, the provision of further education for flexible learning opportunities for adult and mature learners is an important component of the WP policy.

A multi-layered approach for attracting highly qualified students from disadvantaged groups is expected to be followed by selective and specialised institutions to diversify their student populations (such as elite HEIs in the Russell Group). The design of multi-layered strategies includes outreach activities at a pre-entry stage in collaboration with schools and colleges to improve information, and guidance to students enabling them to make the right choices to maximise their chances for entry. The HEIs' WP practices also aim to coordinate Pupil Premium funding and WP funding to optimise the academic potential of students. At the time of admission, HEIs are encouraged to use contextual information in their admission process to make lower offers to students with academic potential. In inclusive and small institutions where most WP students are enrolled, these HEIs are expected to focus on improving

retention and development of flexible study options to meet the needs of students and employers.

An important thrust of the WP policy is on engagement and developing a sense of belonging for student retention and success, including creating an environment that develops supportive peer relations with meaningful and confidence-building interactions with teachers and staff. A combination of universal and targeted support strategies has been advised for students identified as most at risk, with provisions of additional learning, teaching and assessment support, as well as pastoral support. Delivery mechanisms of WP efforts include the setting up of WP units at the institutional level and dedicated offices at the policy level. The Office for Fair Access, for example, approves and monitors the HEIs' access agreements and disseminates best practices across the sector. the Higher Education Funding Council for England (HEFCE) funds activity and administers the National Collaborative Outreach Programme.

Panel 2: College Readiness Strategies for Access and Success Developed by Higher Education Institutions Globally

Countries	Access and Success Strategies
South Africa	Access: National Student Financial Aid Scheme (NSFAS) to improve access, a student-centred model with direct funding to students by NSFAS; National Development Plan (NDP) 2030: collaboration between different parts of education systems for flexible pathways for learning opportunities; Extended Curricular Programme.
UK	**Widening participation in higher education** for low SES, BAME, care-givers, students from low participation neighbourhoods **A student life-cycle approach** (access, retention and student success, progress to post-graduate or employment) **WP policy accounts for diversity in the HE sector**: HEIs set their own priorities and targets in response to institutional context, composition of the local population, the existing student body and available resources; FE for flexible learning opportunities. **Selective and specialised institutions** adopt a multi-layered approach to attract highly qualified students from disadvantaged groups to diversify their student populations: the outreach activities at the pre-entry stage include collaboration with schools and colleges to improve information, advice, and guidance to make the right choices to maximise the chances for entry, aim to coordinate Pupil Premium funding and WP funding to optimise the academic potential of students; use contextual information in their admission process to make lower offers to students with academic potential.

	Inclusive and small institutions where the majority are WP students focused on improving retention; development of flexible study options (move between study modes and institutions) to meet the needs of students and employers; WP as their 'core' business focus. **Engagement and developing a sense of belonging** for student retention and success: supportive peer relations; meaningful and confidence-building interactions with teachers and staff For progression: Postgraduate **support scheme** **Combining universal and targeted support** to students identified as most at risk, additional learning, teaching and assessment support and enhanced pastoral support. **Delivery mechanisms**: WP units at the institutional level; dedicated offices at the policy level: Office for Fair Access —approves and monitors HEIs' access agreements and disseminates best practice across the sector; the Higher Education Funding Council for England (HEFCE) funds activity and administers the National Collaborative Outreach Programme.
Australia	**Higher Education Participation and Partnership Programme**: Provides funding to universities to design and implement strategies for improving access and retention of students from low SES, remote, and indigenous communities. ***Pre-access and access***: Programmes to raise awareness, aspiration and access of SES, remote and indigenous communities: pre-access focuses on pre-tertiary achievement of students experiencing educational disadvantages to access an HE degree, enabling consideration of access to HE of students out of the education system through reconnect to HE via alternative pathways. ***Retention and return to study***: Financial assistance for tuition and amenities fees; personalised approach with development of study skills (Study Smart Programmes); promoting language learning strategies; employing learning analytics as a mechanism to address student retention.
United States	Focus on College Readiness in No Child Left Behind Act (2001); High school partnerships and pre-access **pipeline programmes** in collaboration with schools; On-ramp to four-year degree college programmes: Developmental/remedial education in **Community College** to support transition and completion of four-year college degrees. Approaches include multiple measures to address readiness and placements, corequisite courses (pairing a developmental course with higher level class in the same subject), differentiated math pathways and computer-assisted developmental math, accelerated developmental courses, developmental education paired with workplace skills to help build academic skills and English language proficiency; **High Impact Educational Practices by HEIs**

OECD countries: Example- Sweden	Equity in access and learning; outcome: Diversity affects LO (AHELO); focus on curriculum design, teaching and learning as well as assessment methods; effective career guidance to think critically about the relationship between their educational choices and future life; assess the extent and origin of equity issues; strengthen the integration of planning between secondary and tertiary education systems; consider positive discrimination policies for particular groups, whose prior educational disadvantage is well identified. Provide incentives for Teacher Excellence Initiatives (TEIs) to widen participation and provide extra support for students from disadvantaged backgrounds. Compulsory 7-16 education; Equal outcome strategy; Social skill training of teachers

Source: Prepared by the author based on literature and different policy documents referred to in the text under Section 7.

Australia

Australia has been concerned with the access and success of students from disadvantaged backgrounds. The Higher Education Participation and Partnership Programme (DET, 2017) funds universities to design and implement strategies that improve access and retention of students from low SES, remote and indigenous communities.

Pre-access and access programmes are designed to raise awareness, aspiration, and access to SES, remote and indigenous communities. The focus of the pre-access programme is on the pre-tertiary achievement of students experiencing educational disadvantages to access an HE degree and enable provision of access to HE for students out of the education system through alternative pathways. Retention and return to study are supported by financial assistance for tuition and amenities fees. Personalised approaches to the development of study skills (Study Smart Programmes), promoting language learning strategies, and employing learning analytics, are important mechanisms to develop readiness skills and increase student retention.

Europe

In Europe, the focus of the European Union has been to build an inclusive and connected higher education system (EU, 2017). The roots of this aim are in the pan-European integration process of diverse HE systems initiated in 1999 when 29 European countries signed the Bologna Declaration. The Bologna Process aimed to create a European Higher Education Area (EHEA), with a common degree structure in Europe to ensure that qualifications and study periods are equally recognised. In order to assure quality and promote equity goals, EU policy efforts have been aimed at improving

readiness skills among students from disadvantaged backgrounds. It is recognised that students from disadvantaged social groups that are "least represented in higher education are more likely to lack basic skills (literacy, numeracy and digital competence), experience of learning independently and a clear idea of what higher education entails" (EU, 2017, p.6).

Collaborations and cooperation between HEIs, schools, and Vocational Education and Training (VET) providers; flexible pathways between the different types of education and training; career guidance and mentoring, which are considered crucial to prepare and guide students, and financial support for the disadvantaged students.

Importantly, to promote successful completion, it is recognised that not only are the provisions of academic and non-academic support important, but how teaching and assessment are organised is vital, including teacher training on dealing with classroom diversity. Through the Erasmus + programme, the European Commission has promised support to HEIs to "develop and implement integrated institutional strategies for inclusion, gender equality and study success from admission to graduation, including through cooperation with schools and VET providers" (EU, 2017). These also include strategies to promote equity in access to education, preparation programmes focused on progression to postgraduate studies, and learning outcomes for Roma, the largest ethnic minority community and population of migrants in the European Higher Education Area (EU, 2017). Further, providing safe campuses is an important concern in the EU policy to build an inclusive and interconnected system.

USA

In the USA, national policies (Common Core Standards, 2013) focus on college readiness in the No Child Left Behind Act (2001). Student affairs professionals and academic affairs administrators at the institutional levels have designed educational practices to prepare students for college success. The roots of the curricular change came in the 1960s when the GI Bill granted access to higher education to war veterans and land-grant institutions opened their gates to students from diverse social, economic, racial, and academic backgrounds. Many new students lacked sufficient college preparation (Almeida, 2015).

The Common Core Standards propose guidelines for knowledge and skills to make students more college and career-ready (Common Core Standards, 2013). Many educational practices at the institutional level have been designed as college readiness programmes, which have occupied a prominent role in supporting schools in preparing students for college. A comprehensive consolidation of existing research on best

practices of major college preparation programmes supporting school systems has been undertaken by Arnold et al. (2012). Panel 2 delineates effective practices for developing college readiness in students who are still studying in high school. Teaching rigorous content aligned with college expectations, creating engaging learning environments, instructing students in academic skill areas, building a school-wide college-going culture, and providing holistic, social support have been identified as essential strategies to prepare students with college-ready skills.

High school partnerships and pre-access pipeline programmes in collaboration with schools and multiple measures for developmental/remedial education in Community College have been designed to support transition and completion of four-year college degrees (called the on-ramp to four-year degree college programmes). Developmental education approaches include multiple measures to address readiness and placements. These measures cover the provision of co-requisite courses (pairing a developmental course with higher level class in the same subject), differentiated math pathways and computer-assisted developmental math, accelerated developmental courses, developmental education paired with workplace skills to help build academic skills and English language proficiency, and better assessment methods of readiness and placement in four-year degree colleges (CCSSE, 2016).

Panel 3: Strategies to Develop College Readiness

Practice	Description
Teach Rigorous Content Aligned with College Expectations	Align curriculum with college-level coursework and provide assignments that grow in complexity. Instruction should strongly promote oral and written communication and require students to think scientifically, historically, and mathematically. Require students to take courses that are needed for general education, introductory-level college courses. Provide students with access to college-level coursework, such as Advanced Placement courses or dual-enrolment options. Expose students to subject matter content throughout the school year and for extended lengths of time in the school day with double blocked schedules. Offer freshman seminars and special remedial classes for incoming students who are lagging behind in key subject areas like math or English. Assess students' prior knowledge and conceptions in subject areas along with their college knowledge. Integrate college assessments within high school exams.
Create Engaging Learning Environments	Personalise the learning experience for students, and consider using creative forms of instruction such as project-based learning. Draw on a set of instructional techniques designed to accelerate learning, such as classroom talk, collaborative and literacy work groups, and journaling. Provide connections to the workplace, and help students develop high career aspirations. Embed opportunities for empowering students through community-based projects.
Instruct Students in Academic Skill Areas	Teach and expect students to use study skills, academic discipline, and other academic behaviours. Increase student responsibility over their learning over time.

Build a School-wide College-going Culture	Require students to take the SAT or ACT, and schedule it during a time when there is minimal chance of scheduling conflicts for working students. Generate and maintain a college-going culture where every staff member takes responsibility for getting students to college. Integrate college knowledge and college application activities into course work and other in-school activities. Ensure that advisers have access to students' standardised test scores to tailor advising. Offer preparation counselling and activities in one-on-one and group settings. Help ensure that students understand the requirements of college admissions before entering high school.
Provide Holistic, Social Support	Help students build a network of support across a number of individuals and mentors, including a network of caring adults who can mentor students. Provide culturally relevant environments and activities. Offer comprehensive and intensive long-term support that takes into account students' personal barriers and the time it takes to develop students' trust. Provide small learning communities or faculty advisories to enhance students' perceptions that their teachers know and care about them.

Source: Arnold et al., 2012.

However, at the higher education level, for students from diverse backgrounds who enter college with varying levels of preparation, success rests on the support their institutions provide. As discussed above, while enrolment in both schooling and higher education has witnessed growth, countries across the context are concerned with high attrition and low graduation rates of disadvantaged student groups. Widening access and participation programmes in the UK and, to some extent, in Australia, are designed to attract and support access of low SES groups, BAME groups, and those residing in rural areas. Many of the programmes focus on raising aspirations to attend higher education.

Empirical studies have further shown that students' perceptions of how supportive and concerned institutions were of their personal, academic, and social needs were powerful predictors, among other variables, of the development of academic competencies of first-year students (Zhao and Kuh, 2004; Reason et al., 2006). The philosophy that student learning and success are the institution's responsibility (as opposed to the responsibility of the individual student) is a recent development

(Quaye, et al., 2015). Kuh 2015, states, "Through the middle of the 20th century, the dominant approach at the vast majority of colleges and universities was Darwinist; that is, the students who deserved to succeed were those who could figure out on their own how to adjust to and find their way through the institution" (Loc 89, Kindle edition).

Academic support programmes have been designed in many forms for student retention. The programmes empirically tested for their positive results on student outcomes (Tinto, 2012) include summer bridge programmes, which aim to facilitate the transition from high school to college by providing intensive academic and social support to allow students to gain a social and academic head-start on their first year of college, and for incoming students from community colleges to place them on an equal footing with other students (Pascarella and Terenzini, 2005); first-year seminars, learning centres with tutorials; basic-skills or developmental education courses, accelerated courses, study-skill courses, supplemental instruction (study groups connected to a specific course), academic-assistance learning communities, and academic assistance. Studies also point to libraries as student success hubs and the important role that libraries play in providing valuable space for academic and social support services, especially in the form of trusted information sources (Blankstein, et al., 2019).

For nurturing a sense of belonging and membership in the social communities at college, which can shape a sense of self-worth and, in turn, influence academic performance and student retention, counselling, mentoring and faculty-peer advising, both inside and outside classrooms, have been empirically seen to make a difference between staying or leaving, especially in case of students from the disadvantaged groups in campuses (Tinto, 1993; Crisp, 2010; Colvin, 2015). In addition, financial support in the form of aid and grants (as opposed to loans) is also associated with higher student retention rates, especially for students from low-income groups (Hossler et al., 2009).

The Association of American Colleges and Universities (AAC&U) recommends using 'high-impact' educational practices (HIPs) to ensure students' success. These practices involve deep learning approaches that encourage active participation and sustained engagement. The academic support programmes under HIPs include first-year seminars, academic learning communities, writing-intensive courses, active and collaborative learning, undergraduate research, study abroad, service learning, internships, and capstone courses/experiences. Kuh (2008) highlights the features of HIPs, including active and sustained interaction between students, professors, and diverse peers in educationally purposeful ways. Additionally, students receive

substantial feedback on their performance and are offered opportunities to develop skills to synthesise and apply learning from one setting (for example, a community service site) to another situation (for example, an internship or the classroom). Finally, reflective opportunities are also provided to clarify students' personal values.

An extensive review of the literature on the effects of HIPs also suggests a broad-reaching positive impact on students' learning outcomes, such as critical thinking and the development of intercultural competencies (Kilgo et al., 2015). Results from an empirical study of the effects of participation in multiple high-impact educational practices on academic success outcomes (cumulative GPAs and persistence rates) among 2,028 first-year students suggest that the synergy of multiple high-impact practices (HIPs, for example, first-year seminar, learning community with service-learning experiences) contributes to students' academic success more than HIPs in isolation or no participation. The study's findings also suggest that participation in a summer bridge programme designed to create readiness for HIPs enhanced the effectiveness of the experiences (Hansen & Schmidt, 2017).

South Africa

South Africa has, since 1994, witnessed a significant enrolment in HE. However, low graduation rates of students from disadvantaged social groups have neutralised gains made in access (CHE, 2013). The institutional response to under-prepared students has been through the implementation of academic support programmes. However, persistent inequalities in participation and ineffectiveness have been attributed to the fragmented nature of its implementation (Walton et al., 2015). A deficit approach to vulnerable students in the South African context is a complex consequence of its unjust history, pressures of massification, the funding crisis, the dysfunctional school system, and the international pressure to compete with well-resourced stable systems (Calitz, 2019).

The focus of recent reforms in South Africa to fill attainment gaps has been on curriculum transformation and filling epistemic gaps. In order to address complex combinations of social and epistemic dimensions of achievement gaps, South Africa is implementing extended curriculum programmes (foundation programmes/academic development programmes) with some level of success for students who face significant obstacles in terms of academic, financial, and psycho-social preparedness for university study (CHE, 2013).

Foundation programmes recognise the need to fill up knowledge gaps at the entry level with the revision and consolidation of the conceptual development of the

requisite disciplines. Although these programmes have successfully supported students through their second academic year (TDG, 2016), they fall short in terms of providing for epistemic development beyond the foundation stage, enhancement through exposure to the breadth of courses to prepare graduates for the contemporary world, and epistemic enrichment through the provision of curriculum with key literacies. To address the academic achievement gaps at a national level, research efforts have focused on recommending an extended curriculum to be designed as four/five-year degrees/diplomas with strong foundational as well as developmental provisions (TDG, 2016).

Existing Policies and Strategies for Developing College Readiness in India

Improving access to higher education and closing access gaps signify an important equity concern in the expansion of higher education in India. India has been implementing affirmative action policy in the form of quotas in admissions, relaxation of admissions criteria, and provision of financial aid to students from socially excluded groups. As a result of affirmative action policies, the enrolment of the socially excluded groups in higher education has improved. While group disparities exist, the GER for the socially excluded groups has increased over time (NSSO, 2017). The GER for disadvantaged social groups, such as the STs and the SCs, increased at an annual rate of almost 11 per cent and about 8 per cent between 2007 and 2017, respectively (Varghese and Sabharwal, 2022). The progress of these disadvantaged social groups was greater than that of the non-SC/ST/OBC group, which experienced an annual growth rate of 4 per cent in its GER during the same period. This implies a process of catching up and a movement towards equity.

A comprehensive strategy for developing college readiness attributes to ensure the academic success of diverse learners has, at best, been on the margins in the existing national educational priority. Financial mechanisms to support college readiness-related measures have also been diffused with small outlays. Nevertheless, some programmes have been designed to provide college and career readiness skills to students from disadvantaged social groups. By using a student life-course approach similar to the Widening Policy in the UK, the University Grants Commission's (UGC) coaching schemes in HEIs promise students from the socially disadvantaged groups to foster their higher education academic achievement and improve their chances for securing a professional job and higher earnings following graduation (coaching for NET for lectureship/JRF and Entry in Services). These programmes have the potential to boost the contribution that higher education can make to social mobility.

The UGC programme on remedial coaching, specifically, aims to supplement the widening access effort of the State by strengthening the academic preparedness of students from disadvantaged social groups such as the SCs, STs, OBCs, and religious minorities who have gone through variable high school experiences which may have not been able to fully prepare students to perform college-level courses. In the literature, three dominant approaches are associated with improving the academic preparedness of students. These include remedial education, compensatory education, and developmental education.

Remedial education connotes 'remedy' or 'healing', and includes courses covering content that should have been learned in high school. Remedial education most commonly includes fourteen-to-sixteen-week college courses for college students in reading, writing, or mathematics (Parsad and Lewis, 2003). The compensatory education approach views the students' deprived living and learning environment, often poverty-induced, as a source of their academic under-preparedness. Common practices in compensatory education include academic preparatory and supplementary work to develop maths (computational) and writing skills, improvement of study habits, and provision of a learning environment to counter-balance deprived home environments (Arendale, 2010).

Developmental education is a wider term wherein academic development is seen as a process and in a continuum encompassing both the cognitive and affective domains of the learner. Developmental education programmes include remedial courses in the form of short-term courses for developing academic capabilities. Other interventions include individual tutoring and group tutoring. Developmental education and its programmes are considered more humane and holistic vis-à-vis the terms 'remedial' or 'compensatory' education.

More recent terminologies for improving levels of preparedness include academic enrichment programmes and academic development programmes, which combine academic skill building and remediation with the development of social and emotional skills. These programmes bring together students' academic and social experiences for a more positive experience for diverse learners. The stated objectives of the UGC programme on remedial coaching are aligned with the objectives of the developmental education rubric. Under this programme, special academic classes outside of normal class hours aim to equip students with the knowledge, attitude, and skills required to gain additional learning inputs to improve their subject knowledge.

The *Jawahar Nayodaya Vidayalas* (JNVs) can be considered as a continuous educational pipeline/pathway equity intervention to develop college readiness

attributes among academically talented low-income students residing in rural areas. A case study by Madhusoodanan, et al. (2018) shows how JNVs have aligned their institutional practices and academic provisions over many years to support the preparation and smooth transition between middle school and high school, and between high school and college, to improve college access and success. Pathway intervention efforts, such as JNVs, are related to positive higher education outcomes over time. Outcomes of access and preparation for college take the form of achievement of a consistently high pass percentage at the class 10th level, and high transition rates of students moving on to higher education with minimal inter-group differences in pass percentages. Many students across socio-economic groups secure admissions to premier institutes such as Indian Institutes of Technology (IITs) and the National Institutes of Technology (NITs). The success rate of JNV students qualifying for exams to prestigious elite HEIs has been consistently high.

Furthermore, at the school level, the Performance Assessment, Review, and Analysis of Knowledge for Holistic Development (PARAKH) initiative by NCERT which refers to an independent unit aiming to achieve the fundamental goals of establishing readiness norms, standards, and guidelines, as well as carrying out activities related to student assessment (MoE, 2023). One of PARAKH's activities involves creating Holistic Progress Cards (HPCs) for students in the foundational, preparational, middle, and secondary stages. These reports are designed to help assess students' learning and teaching progress at school and ensure that they are well-prepared for the next educational stage. The assessments focus on more than just grades, considering student engagement in activities and identifying areas for improvement. The PARAKH HPCs also evaluate non-academic skills like time management and emotional intelligence. At the secondary stage, the focus is on developing observable and systematically assessable competencies, which are as follows (NCERT, 2023):

1. Develop reasoning and argumentation skills for addressing public issues.
2. Practice ethical and moral reasoning.
3. Gain broad knowledge while also delving deeply into specific disciplines.
4. Have opportunities for both independent study and group collaboration.
5. Engage in challenging assessments that encourage high-level analysis and synthesis.
6. Acquire skills in languages, communication, and logical reasoning.

In addition to developing cognitive skills crucial for college readiness, understanding college culture—like interacting with professors and peers and navigating the college system—goes beyond time management. It also involves focusing on social skills, such as meeting professors and building rapport, as well as on grit, determination, and the ability to adapt to new environments. These competencies are cultivated through academic behaviour, which helps shape readiness for college-level work, academic performance, and persistence through college. Academic behaviour involves setting long-term goals that aid in persistence, information-seeking skills, completion of tasks within allocated time frames, self-regulation, study skills, and habits.

Academic behaviour can be broadly categorised into study habits and academic perseverance. Study habits include attending class, doing homework, organising study materials, preparing for exams, using information resources, taking notes, and communicating with teachers. On the other hand, academic perseverance involves a student's effort to achieve study-related goals despite challenges. Indicators of academic perseverance include self-awareness, self-control, self-monitoring, and self-efficacy. Comprehensive college readiness necessitates attention to such dimensions, especially considering the differences among various demographic groups. At the secondary stage, PARAKH HPCs could focus on developing competencies related to academic behaviour that facilitate the transition to college and prepare students to handle college-level work and persist through their college experience.

In addition, other forms of support to promote a smooth transition from high school to college and improve learning outcomes include general orientation programmes, tutorials and seminars, book bank facilities, and book grants facilities. The Book Bank Programme in professional colleges is designed to provide and issue books prescribed in the syllabus or essential readings in relevant disciplines to students from the SC and STs social groups. A Book grant is a grant given to students to buy books. To facilitate the learning of visually challenged SC students, a fund is allotted for developing Braille books. Preparatory courses for competitive examinations for pursuing research (JRF), qualifying for lecturership, and public services are also important avenues for improving knowledge and study skills. At the institutional level, the preparatory course scheme at IIT aims to improve access for SC and ST students in engineering disciplines. In this programme, a one-year residential training in basic Science disciplines and English is offered to students who fail to qualify in the joint entrance examination (JEE exam). Successful candidates who complete the course are offered admission to BTech or dual degree programmes (Varghese et al., 2022).

To create an inclusive environment and support student success, institutional mechanisms take the form of SC/ST cells that monitor the implementation of various legal provisions and reservation policies. The Equal Opportunity Office provides academic and non-academic support to students belonging to the marginalised communities and the Office for Higher Education for Persons with Special Needs (HEPSN) to support students with disabilities. Legal methods have also been implemented in higher education to safeguard students belonging to marginalised groups such as women, SCs, and STs. These regulations are called the UGC 'Promotion of Equity in Higher Educational Institutions Regulation', 2012; UGC, Grievance Redressal Regulations, 2012; and All India Council for Technical Education, Establishment of Mechanism for Grievance Redressal Regulations, 2012.

While these are important steps to help students succeed in college, preliminary evidence points to the persistence of social gaps in degree attainment. A leaky educational pipeline (that is, the system of education from kindergarten to graduate school), troubled transitions from high school to college with limited academic support and social support, and larger odds of being at risk of falling into a low academic performance trap once in college and eventually dropping out, contribute to persistence in degree attainment gaps (Sabharwal, 2020). It is thus imperative to implement a national education policy on college readiness that takes into account social stratification in order to allow for intergenerational social mobility and expand democratic participation in higher education.

Proposed Policy on College Readiness

Improving college readiness is crucial to ensure that students are prepared for the academic challenges and expectations of higher education. The National Education Policy 2020 emphasises that many of the dynamics and challenges faced by students from the SEDGs are common across the school and higher education sectors. This means that college readiness strategies should be a primary education policy goal at the school and higher education levels.

First and foremost, partnerships between high schools, colleges and universities are important for creating pathways for students to earn college credit or explore career interests while still in high school. These partnerships can also provide resources and support to high school educators and counsellors to better prepare students for the transition to college. HEIs could collaborate with feeder schools to allow students to develop the necessary capabilities for college readiness, including study skills, time management, self-discipline, academic content, critical thinking, and competence in

the language of instruction. The following initiatives can be implemented at the school level to assist high school students in developing college readiness skills.

Early college preparation programmes introduce students to college expectations, including academic skills, study habits, and time management while in college. These programmes can start as early as middle school and can be offered through summer camps, workshops, or after-school programmes. The programmes are designed to give students exposure to college campuses, workshops to develop study skills, and help them explore career options. Additionally, mentorship opportunities may be provided where older students or college graduates offer guidance and advice to younger students.

College preparatory courses: High schools could offer advanced courses equivalent to college-level coursework to prepare students for the academic rigour of college. These courses can have a comprehensive and rigorous curriculum emphasising critical thinking, research skills, and international-mindedness. These courses could be designed to challenge students and give them a taste of college-level expectations while helping them develop the necessary skills.

Financial literacy education: Financial literacy education is crucial for students to understand the costs associated with college, such as tuition fees and living expenses. Schools could provide information about financial aid options, scholarships, and grants to help students make informed decisions about their college choices and manage their finances responsibly.

Preparation for college entrance tests: Preparing for college entrance exams is crucial for students as these exams play a significant role in college admissions decisions. To help students in this area, schools can offer test preparation courses or workshops. These programmes can help students become familiar with the format and content of college entrance exams and include practice tests, study guides, and strategies for improving test-taking skills.

College Application Assistance: This service provides guidance and support to students going through the college application process. College application assistance can take the form of workshops or one-on-one support from counsellors or college advisors, where students receive guidance on completing college applications from school counsellors or college advisors.

In summary, at the school level, teaching rigorous content that aligns with college expectations, creating engaging learning environments, instructing students in

academic skill areas, building a school-wide college-going culture, and providing holistic social support can help prepare students for college success.

College Readiness Skill Programmes at The Higher Education Level

Transition programmes and college readiness skills for academic integration and social inclusion play a vital role in helping college students adapt to college life and excel academically in their college-level studies. To prepare for students' success, higher education institutions may undertake several initiatives, as detailed below.

Transition Programmes: Transition programmes are designed to help new college students adjust to college life. In addition to cultural expectations, a productive self-concept is essential for adapting to college. Developing social skills entails cultivating a strong relationship with oneself and others. College-ready students have a clear understanding of their goals, recognise their strengths and weaknesses, and form an academic and/or career-oriented identity.

The transition programmes may include the summer bridge programme, which gives students intensive academic and social support to help them transition from high school to college and make a strong start in their first year. During the beginning of their college experience, students may face several challenges, including academic, social, and logistical issues. To help them cope with these challenges, colleges can organise orientation sessions, academic and social inclusion workshops, and peer mentoring programmes. These programmes can cover various topics such as time management, study skills, knowledge of campus resources and faculty visiting hours, and mechanisms of building a support network.

Programmes to develop college readiness skills for academic integration and social inclusion: In college, both academic integration and social inclusion are essential for success. Academic integration refers to how well a student can integrate into the academic environment, while social inclusion refers to their participation in co-curricular activities and investment in informal friendships. Even in the ancient knowledge system, the role of teacher was seen as paramount in ensuring that all students felt included in the teaching-learning interactions in the classrooms (Singh, 2023). The teacher used to answer all the questions of the students. This can be gauged from the following text from the *Krishna Yajurveda Taittirya Upanishad, Brahmananda Valli Shanti Path*, which says:

ॐ सहनाववतु सहनौ भुनक्तु सह वीर्यं करवावहै तेजस्वि नावधीतमस्तु मा विद्विषावहै।

(Krishna Yajurveda Taitirya Upanishad, Brahmananda Valli (2.2.2), Page 94 (version by Gita Press Gorakhpur), 2000; in Singh, 2023).

This means that "May the God protect both (teacher and the student), May he nourish us together, May we work together with great energy, May our studies be enlightened, May there be no hate or jealousy among us, May there be peace (by cleansing and purifying the body of suffering, May there be peace (by relieving the negative feelings and worries of mind) May there be peace (by connecting the soul with the Almighty)" (Singh, 2023).

Academic support services are important for academic integration as they are aimed at helping students improve their skills in crucial areas, such as math, writing, English communication, or critical thinking. The literature discussed earlier shows that these programmes have been tested and proven to positively affect student outcomes. Some of the successful programmes include first-year seminars, learning centres with tutorials, basic skills or developmental education courses, study-skill courses, supplemental instruction, and academic-assistance learning communities. These services may be provided through tutoring centres, writing labs, math labs, and peer mentoring programmes. Academic counselling is also available to assist students in identifying their strengths and weaknesses and developing strategies for academic success. The ultimate goal of academic support services is to offer students personalised assistance to help them overcome any challenges and to enhance their academic skills.

Programmes to develop college readiness skills for social inclusion focus on institutional efforts to include students from disadvantaged groups and enable them to develop their self-efficacy and sense of belonging. The interventions offered by institutions in this context range from transition programmes that provide information about college and financial aid, orientation programmes at the beginning of the academic year, and academic preparation programmes to psychosocial and behavioural supports and the development of non-cognitive skills. These skills include organisation, anticipation, persistence, and resilience, all of which play a crucial role in developing a sense of belonging among students.

College readiness skills for social inclusion include critical thinking, which fosters an understanding of diverse perspectives. The main skills include effective communication, which helps students communicate constructively with other students from diverse backgrounds; cultural competence skills and understanding of diverse

cultures, which is crucial in navigating diverse social environments, and teamwork; conflict resolution skills to help resolve interpersonal differences in a respectful manner; self-advocacy skills which promote self-confidence, resilience, and coping strategies for managing stress, discrimination and adversity; skills for cross-cultural interactions and understanding, digital literacy and online etiquette for respectful communication in virtual spaces; and leadership skills that empower students to become advocates for equity and inclusion within their communities. By offering workshops and integrating these skills into educational training programmes and curricula in a structured manner, institutions can prepare students to actively contribute to inclusive and equitable campus environments where all individuals feel valued, respected, and supported.

Educational institutions can implement strategies to improve their students' preparation for the academic demands of college and increase their likelihood of success. These strategies should be implemented in a comprehensive and coordinated manner to develop students' skills, knowledge, and confidence, ultimately helping them succeed in college and their future endeavours.

Concluding Observations

The evidence in this paper suggests that strategic interventions are required to foster a set of behaviours, skills, attitudes, and knowledge acquisition that are crucial to students' academic performance and persistence in post-secondary education. The analysis in the paper indicates that college-readiness does not only mean building students' content knowledge, which has been a focus of policy efforts in India and globally, but it involves more than just meeting academic requirements. College readiness is a nuanced concept that differs from test scores and qualifying marks at high school that make students eligible for higher education. College readiness is the level of preparation needed to persist and succeed in college. Literature on college readiness informs us that students must possess diverse cognitive and academic competencies, academic cultural knowledge of higher education, and social integration skills for success in higher education. Specifically, research indicates that successful college students possess various non-cognitive, social-integration components of college readiness that prepare them for success in higher education.

College readiness thus refers to the set of capabilities that are necessary to succeed in college and earn a degree. These capabilities can be broadly categorised into three types: academic, non-academic, and campus integration. Academic readiness includes proficiency in core subjects like math, science, and language arts. Non-academic

readiness includes skills like time management, critical thinking, and problem-solving. Campus integration readiness includes familiarity with college culture, resources, and support services. All three types of readiness are essential for students to thrive in college and achieve their academic goals.

Academic capabilities and credentials are primarily defined in terms of high school courses taken, grades received (or scores achieved on national tests), meeting the minimum entrance requirements for college, and content knowledge. In the case of India, the medium of instruction in school is also an aspect of academic capabilities. The requisite skills for college-level courses can include drawing inferences, interpreting results, analysing conflicting sources of information, and supporting arguments with evidence. Studies have shown that the academic intensity or rigour of students' high school curriculum is positively related to several college outcomes, including the avoidance of remediation and graduation attainment.

Research indicates that academic factors are associated with various cognitive abilities, such as analysis, interpretation, precision, accuracy, problem-solving, and reasoning. Studies further show that retention in the second year of college increased as student scores rose. Students with a high score had a higher likelihood of retention rate, with retention rates gradually increasing along the scale to end with a retention rate of close to 100 per cent for students with the maximum academic rigour intensity score. This suggests that academic rigour plays a crucial role in preparing students for college-level work, as well as in their retention and academic success.

In addition to academic skills, attitudes and behaviours are equally important in preparing students for college-level work. College demands academic competencies, and problem-solving, coping, and social skills to manage new environments and academic demands. Research suggests that academic success in college depends on cognitive and non-academic factors such as mindsets, behaviours, and college knowledge. Non-academic factors refer to the mindsets of students, encompassing their attitudes, beliefs, and emotions about themselves and their college. A college-ready mindset involves setting long-term goals that aid in persistence, information-seeking, time management and study skills, study habits, time on task completion, and self-regulation. College-ready behaviour leads to the development of academic behaviour, which enables students to engage with content and maximise learning. These non-cognitive capabilities, including motivation, time management, and self-regulation, are also critical for success in labour market outcomes.

The other important component of college readiness pertains to campus integration capabilities, which are related to social skills that enable students to

develop relationships with themselves and others, and college knowledge. College knowledge refers to understanding the procedural requirements of college, such as how to apply and manage financial aid issues and cultural expectations of higher education. It also includes important components such as choosing subjects, selecting a college, securing financial resources, and completing college applications.

Awareness of the culture of college is another important component of college knowledge, as it helps students understand how to interact with professors and peers, navigate college as a social system, and learn effectively. This includes information about office hours, avenues for seeking information, knowledge about library provisions and its benefits, and submitting assignments on time. Research has shown that such inferred cultural knowledge is necessary for postsecondary success but many first-generation students may be unfamiliar with it. Students who are the first in their families to attend college and those from certain communities may be more susceptible to experiencing culture shock, as they may not be fully aware of the cultural norms, values, and expectations of postsecondary education.

Significantly, studies suggest that having social skills is crucial for students to adapt to higher education settings and be college-ready. Developing social skills involves building a strong relationship with oneself and with others. A productive self-concept related to self-esteem and self-confidence is essential for a healthy relationship with oneself. Interpersonal skills such as cooperation, assertion, responsibility, and empathy are necessary to build positive relationships. College-ready students also ensure their success in higher education by developing a clear understanding of their goals, including recognising their strengths and weaknesses, and forming an academic- and/or career-oriented identity. In addition, college-ready students have the social skills to cultivate positive relationships with their peers, teachers, and the larger community.

The evidence shows that inequalities in academic success persist as students who enter HEIs have differences in readiness sets, influenced by one's relative advantages or disadvantages in society. What HEIs can do for more equitable student outcomes and how peers, faculty members, and administrative staff act will ultimately determine the college readiness opportunities presented to students from the disadvantaged social groups. Developing a policy on college readiness is crucial, and efforts must be made to enhance the preparedness of HEIs to overcome challenges faced by students from diverse social groups. It is imperative for HEIs to offer student support services, ensuring that all students feel included and supported on campus, and equipping them with the skills required to succeed in higher education.

References

Adelman, C. (1999). Answers in the tool box: Academic intensity, attendance patterns, and bachelor's degree attainment. US Department of Education, Office of Educational Research and Improvement.

Adelman, C. (2006). The toolbox revisited: Paths to degree completion from high school through college. US Department of Education.

Adelman, C., Daniel, B., & Berkovits, I. for U.S. Department of Education, National Center for Education Statistics (2003). Postsecondary Attainment, Attendance, Curriculum, and Performance: Selected Results from the NELS: 88/2000 Postsecondary Education Transcript Study (PETS), 2000. ED Tab Washington, D.C. Retrieved from: https://nces.ed.gov/pubs2003/2003394.pdf

All India Council for Technical Education. (2012). Establishment of Mechanism for Grievance Redressal Regulations. The Gazette of India.

Almeida D. J. (2015). The Roots of College Readiness: An Old Problem with New Complexities. In Tierney W.G. and Duncheon J.C. The Problem of College Readiness. (pp. 45-63). SUNY. New York Press.

Altonji, J. G., Blom, E., & Meghir, C. (2012). Heterogeneity in human capital investments: High school curriculum, college major, and careers. Annu. Rev. Econ., 4(1), 185-223.

Altonji, J. G., Kahn, L., & Speer, J. (2014). 'Cashier or consultant? Entry labor market conditions, field of study, and career success', NBER Working Paper 20531.

Altonji, J. G., & Zimmerman, S. D. (2018). The Costs of and Net Returns to College Major, NBER Chapters, In Productivity in Higher Education (pp. 133-176). National Bureau of Economic Research, Inc.

Ananiadou, K. & Claro, M. (2009). 21st Century Skills and Competencies for New Millennium Learners in OECD Countries. OECD Education Working Papers (No. 41). https://doi.org/10.1787/218525261154

Angrist, N., Djankov, S., Pinelopi, P. K., & Patrinos, H. A. (2019). Measuring human capital. Policy Research Working Paper (No.8742). The World Bank.

Arendale, D. R. (2010). Access at the crossroads: Learning assistance in higher education. ASHE Higher Education Report, 35(6). John Wiley & Sons.

Aries, E., & Seider, M. (2005). The interactive relationship between class identity and the college experience: The case of lower income students. Qualitative Sociology, 28(4), 419-443. https://doi.org/10.1007/s11133-005-8366-1

Arnold, K.D., Lu, E. C., & Armstrong, K. J. (2012). The Ecology of College Readiness. ASHE Higher Education Report, 38(5), 1¬-138. http://dx.doi.org/10.1002/aehe.20005

Aronson, J., Cohen, G., McColskey, W., Montrosse, B., Lewis, K., and Mooney, K. (2009). Reducing Stereotype Threat in Classrooms: A Review of Social-Psychological Intervention Studies on Improving the Achievement of Black Students, Issues & Answers Report, (REL 2009–No. 076). Washington, D.C.: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from http://ies.ed.gov/ncee/edlabs.

Barro, R. J. (1991). Economic growth in a cross section of countries. The Quarterly Journal of Economics, 106(2), 407. https://doi.org/10.2307/2937943.

Barro, R. J., & Lee, J. W. (2013). A new data set of educational attainment in the world, 1950–2010. Journal of Development Economics, 104, 184-198. https://doi.org/10.1016/j.jdeveco.2012.10.001

Becker, G. S. (1962). Investment in human capital: A theoretical analysis. Journal of Political Economy, 70(5, Part 2), 9-49. https://doi.org/10.1086/258724

Becker, G. S. (1964). Human Capital, Nueva York. National Bureau of Economic Research, 8(299), 493-517.

Becker, G. S. (1993). Human capital: A theoretical and empirical analysis with special reference to education (3rd edition). Chicago: University of Chicago Press.

Bensimon, E. M. (2007). The underestimated significance of practitioner knowledge in the scholarship on student success. The Review of Higher Education, 30(4), 441-469.

Bettinger, E. P., & Baker, R. B. (2014). The effects of student coaching. Educational Evaluation and Policy Analysis, 36(1), 3-19. https://doi.org/10.3102/0162373713500523

Black, S., & Devereux, P. (2010). Recent developments in intergenerational mobility. https://doi.org/10.3386/w15889

Blankstein, M., Wolff-Eisenberg, C., & Braddlee. (2019). Student needs are academic needs: Community college libraries and academic support for student success. ITHAKA.S+R. https://doi.org/10.18665/sr.311913

Bourdieu, P. (1979). Symbolic power. Critique of Anthropology, 4(13-14), 77-85. https://doi.org/10.1177 /0308275x7900401307

Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Eds.), Handbook of Theory and Research in the Sociology of Education (pp. 241-258). New York, NY: Greenwood Press.

Bourdieu, P., & Passeron, J. (1990). Reproduction in Education, Society and Culture, 4, Sage Publications.

Bowles, S., Gintis, H., & Osborne, M. (2001). The determinants of earnings: A behavioral approach. Journal of Economic Literature, 39(4), 1137-1176.

Byrd, K. L., & Macdonald, G. (2005). Defining college readiness from the inside out: First-generation college student perspectives. Community College Review, 33(1), 22–37. doi: 10.1177/009155210503300102

Calitz, T. M. (2019). Enhancing the freedom to flourish in higher education: Participation, equality and capabilities. Routledge.

Carlsson, M., Dahl, G. B., Öckert, B., & Rooth, D. (2015). The effect of schooling on cognitive skills. Review of Economics and Statistics, 97(3), 533-547. https://doi.org/10.1162/rest_a_00501

Center for Community College Student Engagement (CCCSE) (2016). Expectations meet reality: The underprepared student and community colleges. The University of Texas at Austin, College of Education, Department of Educational Administration, Program in Higher Education Leadership. https://www.ccsse.org/nr2016/

CHE (2013). A proposal for undergraduate curriculum reform in South Africa: The case for a flexible curriculum structure, Report of the Task Team on Undergraduate Curriculum Structure Council on Higher Education, Pretoria: Council on Higher Education.

Coleman, J. S. (1988). Social capital in the creation of human capital. American journal of sociology, 94, 95-120.

Coleman, James S. (1966) Equality of Educational Opportunity (COLEMAN) Study (EEOS), 1966. Ann Arbor, MI: Inter-university Consortium for Political and Social Research

Collier, P. J., & Morgan, D. L. (2008). "Is that paper really due today?": Differences in first-generation and traditional college students' understandings of faculty expectations. Higher education, 55, 425-446.

Colvin, J. W. (2015). Peer mentoring and tutoring in higher education. New Frontiers of Educational Research, 207-229. https://doi.org/10.1007/978-3-642-55352-3_9

Conley, D. T. (2005). College knowledge: What it really takes for students to succeed and what we can do to get them ready. San Francisco: Jossey-Bass.

Conley, D. T. (2007). Redefining college readiness. Educational Policy Improvement Center (NJ1).

Conley, D. T. (2008). Rethinking college readiness. New Directions for Higher Education, 2008(144), 3-13.

Conley, D. T. (2010). College and Career Ready: Helping All Students Succeed beyond High School. John Wiley & Sons.

Conley, D. T. (2012). A Complete Definition of College and Career Readiness. Educational Policy Improvement Center (NJ1).

Connect ED. (2012). College and Career Readiness: What Do We Mean? A Proposed Framework. California Center for College and Career. https://connectednational.org/wp-content/uploads/2018/11/CACR-Version-V1-2-Apr-12-2012_FINAL.pdf

Conti, G., & Heckman, J. J. (2014). Understanding conscientiousness across the life course: An economic perspective. Developmental Psychology, 50(5), 1451-1459. https://doi.org/10.1037/a0036426

Corwin, Z. B., & Tierney, W. G. (2007.). Getting There--And Beyond: Building a Culture of College-Going in High Schools. Center for Higher Education Policy Analysis, University of Southern California. https://eric.ed.gov/?id=ED498731

Crisp, G. (2010). The impact of mentoring on the success of community college students. The Review of Higher Education, 34(1), 39-60. https://doi.org/10.1353/rhe.2010.0003

Cunha, F., & Heckman, J. J. (2009). The economics and psychology of inequality and human development. Journal of the European Economic Association, 7(2-3), 320-364.

Department for Business, Innovation & Skills (DBIS). (2014, April 3). National strategy for access and student success. Government of UK. https://www.gov.uk/government/publications/national-strategy-for-access-and-student-success

Department of Education and Training (DET) (2017). Improving retention, completion and success in higher education. Discussion Paper. Australia Government. https://www.education.gov.au/higher-education-standards-panelhesp/resources/discussion-paper-improving-completion-retention-and-success-higher-education

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. Journal of Personality and Social Psychology, 92(6), 1087-1101. https://doi.org/10.1037/0022-3514.92.6.1087

Duignan, B., & Nolen, J. L. (2021). No Child Left Behind (NCLB). Encyclopedia Britannica. https://www.britannica.com/topic/No-Child-Left-Behind-Act

Duncheon J.C. (2015). The Problem of College Readiness. In W. G. Tierney & J. C. Duncheon (Eds.), The Problem of College Readiness, (pp. 3-44). State University of New York Press, Albany.

Dweck, C. S., Walton, G. M., & Cohen, G. L. (2011). Academic tenacity: Mindsets and skills that promote long-term learning. Seattle, WA: Gates Foundation. Retrieved from http://collegeready.gatesfoundation.org/Learning/LearningContent/AcademicTenacityMindsetandSkillsthatPromote

Ellwood, D. T., & Kane, T. J. (2000). Who is getting a college education? Family background and the growing gaps in enrolment. In S. Danziger & J. Waldfogel (Eds.), Securing the Future: Investing in Children from Birth to College, (pp. 283–324). Russell Sage Foundation.

Engelbrecht, H. J. (2003). Human Capital and Economic Growth: Cross-Section Evidence for OECD Countries. Economic Record, 79 (Special Issue), S40-S51.EU (2017).

EU (2017). Communication From the Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of The Regions.

Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2012). Teaching Adolescents to Become Learners: The Role of Noncognitive Factors in Shaping School Performance--A Critical Literature Review. Chicago: Consortium on Chicago School Research.

Fitzgerald, B. (2004). Federal financial aid and college access. In E. P. St. John (Ed.), Readings on Equal Education: Vol. 19. Public Policy and College Access: Investigating the Federal and State Roles in Equalizing Post-secondary Opportunity (pp. 1-28). New York: AMS Press.

Goldin, C. D., & Katz, L. F. (2008). The Race between Education and Technology. Harvard University Press.

Gordon, E. W. (1995). Toward an equitable system of educational assessment. The Journal of Negro Education, 64(3), 360-372. https://doi.org/10.2307/2967215

Hansen, M. J., & Schmidt, L. (2017). The synergy of and readiness for high-impact practices during the first year of college. Journal of the First-Year Experience & Students in Transition, 29(1), 57-82.

Hanushek, E. A., & Woessmann, L. (2012). Do better schools lead to more growth? Cognitive skills, economic outcomes, and causation. Journal of Economic Growth, 17, 267-321.

Hanushek, E. A., & Kimko, D. D. (2000). Schooling, labor-force quality, and the growth of nations. American Economic Review, 90(5), 1184-1208. https://doi.org/10.1257/aer.90.5.1184

Hanushek, E. A., & Woessmann, L. (2016). Knowledge capital, growth, and the east Asian miracle. Science, 351(6271), 344-345. https://doi.org/10.1126/science.aad7796

Hart, C. S. (2014). Agency, participation and transitions beyond school. In C.S. Hart, M. Biggeri & B. Babic (Eds.), Agency and Participation in Childhood and Youth—International Applications of the Capability Approach in Schools and Beyond, (pp. 181-203). Bloomsbury

Hastings, J. S., Neilson, C. A., & Zimmerman, S. D. (2013). Are some degrees worth more than others? Evidence from college admission cutoffs in Chile (No. w19241). National Bureau of Economic Research.

Liran, B.H., & Miller, P. (2017). The role of psychological capital in academic adjustment among University students. Journal of Happiness Studies, 20(1), 51-65. https://doi.org/10.1007/s10902-017-9933-3

Heckman, J. J., & Kautz, T. (2012). Hard evidence on soft skills. Labour Economics, 19(4), 451-464.

Heckman, J. J., & Rubinstein, Y. (2001). The importance of noncognitive skills: Lessons from the GED testing program. American Economic Review, 91(2), 145-149.

Hooker, S., & Brand, B. (2010). College knowledge: A critical component of college and career readiness. New Directions for Youth Development, 2010(127), 75–85.

Hossler, D., Braxton, J., & Coopersmith, G. (1989). Understanding student college choice. In J.C Smart (Ed.), Higher Education: Handbook of Theory and Research: Volume 5, (pp. 231-288). Agathon Press.

Hossler, D., Ziskin, M., Gross, J. P., Kim, S., & Cekic, O. (2009). Student aid and its role in encouraging persistence. In J.C Smart (Ed.), Higher education: Handbook of Theory and Research: Volume 25. (pp. 389-425). Springer.

Ishitani, T. T. (2006). Studying attrition and degree completion behavior among first-generation college students in the United States. The Journal of Higher Education, 77(5), 861-885.

Jerrim, J., & Macmillan, L. (2015). Income inequality, intergenerational mobility, and the great Gatsby curve: Is education the key? Social Forces, 94(2), 505-533. https://doi.org/10.1093/sf/sov075

Kilgo, C. A., Ezell Sheets, J. K., & Pascarella, E. T. (2015). The link between high-impact practices and student learning: Some longitudinal evidence. Higher Education, 69, 509-525.

Kolluri, S., & Tierney, W. G. (2019). Understanding college readiness: The limitations of information and the possibilities of cultural integrity. The Educational Forum, 84(1), 80-93. https://doi.org/10.1080/00131725.2020.1672003

Kuh, G. D. (2007). What student engagement data tell us about college readiness. Peer Review, 9(1), 4–8.

Kuh, G. D. (2008). High-impact educational practices: What they are, who has access to them, and why they matter. Association of American Colleges and Universities. Washington, DC

Kuh, G. D. (2015). Foreword. In Quaye, S. J., & Harper, S. R. (Eds.), Student Engagement in Higher Education. Routledge, New York.

Kuh, G. D., Kinzie, J., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2006). Commissioned report for the national symposium on postsecondary student success: Spearheading a dialog on student success. National Postsecondary Educational Cooperative. https://nces.ed.gov/npec/papers.asp

Lareau, A. (1987). Social class differences in family-school relationships: The importance of cultural capital. Sociology of Education, 73-85.

Lucas Jr, R. E. (1988). On the mechanics of economic development. Journal of Monetary Economics, 22(1), 3-42.

Luthans, F., Luthans, K. W., & Luthans, B. C. (2004). Positive psychological capital: Beyond human and social capital. Business Horizons, 47(1), 45-50. https://doi.org/10.1016/j.bushor.2003.11.007

Luthans, F., Vogelgesang, G. R., & Lester, P. B. (2006). Developing the psychological capital of resiliency. Human Resource Development Review, 5(1), 25-44. https://doi.org/10.1177/1534484305285335

McArthur, J. A. (2015). Matching Instructors and Spaces of Learning: The Impact of Space on Behavioral, Affective and Cognitive Learning. Journal of Learning Spaces, 4(1), 1-16.

Madheswaran, S., & Singhari, S. (2018). Disparities in Outcome: Graduate Labour Market in India. In N. V. Varghese, N. S. Sabharwal, & C. M. Malish (Eds.), India Higher Education Report 2016: Equity, (pp. 301-330). Sage. New Delhi.

Madhusoodanan, J., Sabharwal, N. S., & Malish, C. M. (2018). Equity and Excellence: A study of Jawahar Navodaya Vidyalaya. In N.V Varghese, N.S. Sabharwal, & C.M. Malish (Eds.), India Higher Education Report 2016: Equity, (pp. 273-300). Sage. New Delhi

Mankiw, N. G., Romer, D., & Weil, D. N. (1992). A contribution to the empirics of economic growth. The Quarterly Journal of Economics, 107(2), 407-437.

Marginson, S. (2011). Higher education and public good. Higher Education Quarterly, 65(4), 411-433.

McAlister, S., & Mevs, P. (2012). College Readiness: A Guide to the Field. Annenberg Institute for School Reform at Brown University (NJ1).

McCrae, R. R., & Costa, P. T., Jr. (1996). Toward a new generation of personality theories: Theoretical contexts for the five-factor model. In J. S. Wiggins (Ed.), The Five-Factor Model of Personality: Theoretical Perspectives (pp. 51–87). Guilford Press.

McDonough, P. M. (1997). Choosing Colleges: How Social Class and Schools Structure Opportunity. State University of New York Press.

McDonough, P. M. (2005). Counselling and college counselling in America's high schools. State of college admission, 107-121.

Mincer, J. (1984). Human Capital and Economic Growth. Economics of Education Review, 3(3), 195-205. https://doi.org/10.1016/0272-7757(84)90032-3

Ministry of Education (MoE). (2022). All India Survey of Higher Education 2021-22, Department of Higher Education. New Delhi: Government of India.

Ministry of Education (MoE) (2023). NCERT-PARAKH. Government of India, New Delhi. https://ncert.nic.in/parakh/about.php.

Nagaoka, J., Farrington, C. A., Roderick, M., Allensworth, E., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2013). Readiness for college: The role of non-cognitive factors and context. Voices in Urban Education, 38, 45-52.

National Research Council (NRC). (2012). Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century. Washington, D.C.: The National Academies Press.

National Sample Survey Organisation (NSSO) (2014). India: Social Consumption- Education Survey 2014, 71st Round. New Delhi: Ministry of Statistics & Programme Implementation, Government of India.

National Sample Survey Organisation (NSSO) (2017). India: Social Consumption–Education Survey 2017, 75th Round. New Delhi: Ministry of Statistics and Programme Implementation, Government of India.

NCERT (2023). National Curriculum Framework for School Education 2023. Government of India, New Delhi. pp.24, 29-31 https://ncert.nic.in/pdf/NCFSE-2023-August_2023.pdf

Nelson, R. R., & Phelps, E. S. (1966). Investment in humans, technological diffusion, and economic growth. The American Economic Review, 56(1/2), 69-75.

Nussbaum, M. (2000). Women's capabilities and social justice. Journal of Human Development, 1(2), 219-247.

O'Connor, M. C., & Paunonen, S. V. (2007). Big five personality predictors of post-secondary academic performance. Personality and Individual Differences, 43(5), 971-990.

OECD (2005). Definition and selection of key competencies-Executive Summary.

OECD (2019a). PISA 2018: Insights and Interpretations. OECD. Paris.

OECD (2019b). OECD future of education and skills 2030. Learning compass. A series of concept notes.

OECD (2019c). OECD future of education and skills 2030. Conceptual learning framework. Transformative competencies for 2030.

Olson, L., & Rosenfeld, R. A. (1984). Parents and the process of gaining access to student financial aid. The Journal of Higher Education, 55(4), 455-480.

Oreopoulos, P., & Petronijevic, U. (2013). Making College Worth It: A Review of Research on the Returns to Higher Education (No. w19053). National Bureau of Economic Research. https://doi.org/10.3386/w1905

Orfield, G., & Lee, C. (2005). Why Segregation Matters: Poverty and Educational Inequality. UCLA: The Civil Rights Project / Proyecto Derechos Civiles. Retrieved from https://escholarship .org /uc/item/4xr8z4wb.

Parsad, B., & Lewis, L. (2003, November 28). Remedial education at degree-granting postsecondary institutions in fall 2000. National Center for Education Statistics, U.S. Department of Education. https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2004010

Pascarella, E. T., & Terenzini, P. T. (2005). How College Affects Students: A Third Decade of Research. Volume 2. Jossey-Bass, An Imprint of Wiley. 10475 Crosspoint Blvd, Indianapolis, IN 46256.

Paulsen, M. B. (1990). College Choice: Understanding Student Enrollment Behavior. ASHE-ERIC Higher Education Report (No. 6). Washington, D.C.: The George Washington University, Washington, D.C.

Paulsen, M. B., & St. John, E. P. (2002). Social class and college costs: Examining the financial nexus between college choice and persistence. The Journal of Higher Education, 73(2), 189-236. https://doi.org/10.1353/jhe.2002.0023

Perna, L. W. (2006). Studying college access and choice: A proposed conceptual model. In Higher Education: Handbook of Theory and Research (pp. 99-157). Dordrecht: Springer Netherlands.

Perna, L. W., & Steele, P. (2011). The role of context in understanding the contributions of financial aid to college opportunity. Teachers College Record, 113(5), 895-933.

Poropat, A. E. (2009). A meta-analysis of the five-factor model of personality and academic performance. Psychological Bulletin, 135(2), 322.

Psacharopoulos, G., & Patrinos, H. A. (2018). Returns to investment in education: A decennial review of the global literature. Education Economics, 26(5), 445-458. https://doi.org/10.1080 /09645292.2018.1484426

Quaye, S. J., Harper, S. R. & Pendakur S.L. (2015) (Eds.). Student Engagement in Higher Education- Theoretical Perspectives and Practical Approaches for Diverse Populations. New York: Routledge.

Reason, R. D., Terenzini, P. T., & Domingo, R. J. (2006). First things first: Developing academic competence in the first year of college. Research in Higher Education, 47(2), 149-175. https://doi.org/10.1007/s11162-005-8884-4

Reid, M. J., & Moore III, J. L. (2008). College readiness and academic preparation for postsecondary education. Urban Education, 43(2), 240-261. https://doi.org/10.1177/0042085907312346

Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. Psychological Bulletin, 130(2), 261.

Robert, J. & Thomas, L. (2005). The 2003 UK Government Higher Education White Paper: a critical assessment of its implications for the access and widening participation agenda. Journal of Education Policy, 20(5), 615-630

Robeyns, I. (2006). Three models of education. Theory and Research in Education, 4(1), 69-84. https://doi.org/10.1177/1477878506060683

Ross, T., Kena, G., Rathbun, A., Kewal Ramani, A., Zhang, J., Kristapovich, P., & Manning, E. (2012). Higher Education: Gaps in access and persistence study. U. S. Department of Education, National Centre for Education Statistics. Washington, D.C.

Sabharwal N. S. (2020a). Managing Student Diversity in Indian Higher Education Institutions: Achieving Academic Integration and Social Inclusion. In N. V. Varghese, & G. Malik (Eds.). India Higher Education Report 2019: Governance and Management. (pp. 315-344). New Delhi: Sage Publications.

Sabharwal N.S. (2020b). Extended Education at College in India: Advancing Equity Through the Extension of Public Academic Support Programmes for Students from the Socially and Economically Disadvantaged Groups. International Journal for Research on Extended Education. 8 (2). 156–172.

Sabharwal, N. S., & Malish, C. M. (2016): Diversity and Discrimination in Higher Education: A Study of Institutions in Selected States of India. CPRHE Research Report. New Delhi: CPRHE, NIEPA.

Sabharwal N. S., & Malish C. M. (2017). Student Diversity and Challenges of Inclusion in Higher Education in India. International Higher Education (No. 91), (pp. 25-27). NIEPA.

Sabharwal, N. S., Varghese, N. V., & Malish, C. M. (2018). India Higher Education Report 2016: Equity. SAGE Publications.

Schultz, T. W. (1961). Investment in human capital. The American Economic Review, 51(1), 1-17.

Schultz, T. W. (1981). Investing in People. University of California Press, Berkeley.

Sedlacek, W. E. (1987). Black students on White campuses: Twenty years of research. Journal of College Student Personnel, 28(6), 484-495.

Sedlacek, W. E. (2004). Beyond the Big Test: Non-cognitive Assessment in Higher Education. Jossey-Bass, An Imprint of Wiley, Indianapolis.

Sen, A. (1992). Inequality Re-examined. New York: Clarendon Press.

Sen, A. (1999). Commodities and Capabilities. OUP Catalogue.

Singh, B. (2023). Teacher Education in Vedic Period: Implications to Modern Education System. Shodha Samiksha, 13(1), 130-138.

Sullivan, A., & Brown, M. (2013). Social inequalities in cognitive scores at age 16: The role of reading. CLS Working Papers, 2013(13/10).

Taittiryopanishad (2000). Taittiryopanishad. Gita Press, Gorakhpur. 94 – 95. Online Archive https://archive.org/details/TaittiriyaUpanishadGitaPressGorakhpur/page/n99/mode/2up?view=theater (Original work published 6th Century BCE)

Taubman, P. J., & Wales, T. (1974). Higher education and earnings: College as an investment and screening device. National Bureau of Economic Research.

TDG (2016). New generation extended curriculum (The Flexible Degree Project Report) – Institutional Report. TDG collaborative grant project report.

Terenzini, P. T., & Pascarella, E. T. (2005). How College Affects Students: A Third Decade of Research (Volume 2). Jossey-Bass.

Tichavakunda, A. A. (2019). Fostering college readiness: An ethnography of a Latina/o Afterschool program. Education and Urban Society, 51(7), 922-945. https://doi.org/10.1177/0013124517727055

Tierney, W., & Auerbach, S. (2005). Toward developing an untapped resource: The role of families in college preparation. In W. Tierney, Z. Corwin, & J. Colyar (Eds.), Preparing for College: Nine Elements of Effective Outreach (pp. 29–48). Albany: State University of New York Press.

Tierney, W. G. (1992). An anthropological analysis of student participation in college. The Journal of Higher Education, 63(6), 603. https://doi.org/10.2307/1982046

Tierney, W. G., & Jun, A. (2001). A University helps prepare low-income youths for college: Tracking school success. The Journal of Higher Education, 72(2), 205-225. https://doi.org/10.2307/2649322

Tinto, V. (1993). Leaving College: Rethinking the Causes and Cures of Student Attrition (2nd edition). Chicago: University of Chicago Press.

Tinto, V. (2012). Completing College: Rethinking Institutional Action. University of Chicago Press.

Tinto, V. (2017). Through the eyes of students. Journal of College Student Retention: Research, Theory & Practice, 19(3), 254-269. https://doi.org/10.1177/1521025115621917

UGC. (2012). Grievance Redressal Regulations.

UGC. (2012). Promotion of Equity in Higher Educational Institutions Regulation.

Ul Haq, M. (1995). Reflections on human development. oxford university Press.

UNESCO (2017). Six ways to ensure higher education leaves no one behind. Policy paper 30, UNESCO: Paris. https://unesdoc.unesco.org/ark:/48223/pf0000247862

UNESCO. (2016). Global Education Monitoring Report 2016. Education for People and Planet. Creating Sustainable Futures for All. Paris, France, UNESCO. https://uis.unesco.org/sites/default/files/documents/education-for-people-and-planet-creating-sustainable-futures-for-all-gemr-2016-en.pdf

United Nations Development Programme (UNDP). (1990). Human Development Report 1990. New York: Oxford University Press.

United Nations Development Programme (UNDP). (2010). Human Development Report 2010. New York: Oxford University Press.

United Nations Development Programme (UNDP) (2016). Human development report 2016: Human development for everyone. UNDP, New York: Oxford University Press. https://hdr.undp.org/content/human-development-report-2016

United Nations Development Programme (UNDP) (2024). Human Development Report 2023/2024, Breaking the Gridlock: Reimagining Cooperation in a Polarized World. UNDP, Stylus Publishing, LLC. New York. https://hdr.undp.org/content/human-development-report-2023-24

Vanno, V., Kaemkate, W., & Wongwanich, S. (2014). Relationships between academic performance, perceived group psychological capital, and positive psychological capital of Thai undergraduate students. Procedia-Social and Behavioral Sciences, 116, 3226-3230.

Varghese, N. V., & Sabharwal, N. S. (2022). The Future of Higher Education in India from Massification to Universalisation. CPRHE Research Paper 16, NIEPA, New Delhi.

Varghese, N. V., Sabharwal, N. S., & Malish, C. M. (2022). Equity in Higher Education for Inclusive Growth: Evidence from India. In S. Chattopadhyay, S. Marginson, & N. V. Varghese (Eds.), Changing Higher Education in India (pp. 67–94). Bloomsbury.

Velez-Ibanez, Carlos, G., & Greenberg, J. B. (1992). Schooling processes among U.S. Mexicans, Puerto Ricans, and Cubans: A comparative, distributive, and case study approach. In T. Weaver (Ed.), Handbook of Hispanic Cultures in the United States: Anthropology: v. 4 (pp. 1-47). Arte Publico Press.

Von Secker, C. (2009). Closing the gap: Seven keys to college readiness for students of all races/ethnicities. Accountability Update, Montgomery County Public Schools, Applied Research Unit.

Walton, E., Bowman, B., & Osman, R. (2015). Promoting access to higher education in an unequal society: Part 2-leading article. South African Journal of Higher Education, 29(1), 262-269.

Wilson-Strydom, M. (2011). University access for social justice: A capabilities perspective. South African Journal of Education, 31(3), 407-418.

Wilson-Strydom, M. (2015). University Access and Success: Capabilities, Diversity and Social Justice. Routledge.

Winkle-Wagner, R., & Locks, A. M. (2014). Diversity and Inclusion on Campus: Supporting Racially and Ethnically Under-represented Students. Routledge.

World Bank (2012). Put Higher Education to Work. Washington D.C.: The World Bank.

World Bank (2019). World Development Report 2019: The Changing Nature of Work. Washington, D.C.: The World Bank.

World Bank, 2007. Building Knowledge Economies: Advanced Strategies for Development, World Bank Publications - Books, The World Bank Group, No. 6853, December.

Wyatt, J. N., Wiley, A., Camara, W. J., & Proestler, N. (2012). The Development of an Index of Academic Rigor for College Readiness. Research Report No. 2011-11. College Board.

Zhao, C. M., FF Kuh, G. D. (2004). Adding value: Learning communities and student engagement. Research in Higher Education, 45(2), 115-138.

Zimmerman, S. D. (2014). The returns to college admission for academically marginal students. Journal of Labor Economics, 32(4), 711-754.

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About the paper

This paper examines the significance of college readiness from various theoretical and empirical perspectives. It underscores the role of college readiness in human capital formation, human development, and the commitment to social justice. It examines the influence of economic, social, cultural, cognitive, and psychological capital on human development and synthesises literature on competencies related to college readiness. Drawing from empirical evidence, the paper analyses college readiness levels among diverse student populations and reviews strategies from various countries, including India, to enhance these attributes. It concludes with a proposal for a national policy framework to improve college readiness in India, focusing on the preparedness of HEIs to support students from diverse backgrounds, thereby promoting equitable access and success in higher education.

About the author

Nidhi S. Sabharwal is Associate Professor, CPRHE/NIEPA and holds the position of Honorary Associate Professor in the Department of Education Studies at the University of Warwick, United Kingdom. She has previously been In-Charge of the CPRHE/NIEPA and also served as the Director of the Indian Institute of Dalit Studies. She is the recipient of the SRHE Accolade for Contribution to the Field of Higher Education Research, an international award from The Society for Research into Higher Education (SRHE). She has conducted extensive research on the development concerns of the poor and students from the socially and economically disadvantaged groups in higher education. She has also studied excluded groups in other countries, such as the Burakumin in Japan. She has published books and articles related to equity and inclusion and presented papers at international conferences. Her current research focuses on access, college readiness, student diversity and equity in Higher Education.

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