



# Conceptualising the Primary to Secondary School Transition within the Theoretical Framework of Ecosocial Theory

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## ABSTRACT

The transition between primary and secondary school is an important event in the lives of young people with the potential to impact mental health outcomes in the short and long term. This paper argues that ecosocial theory, a theory of epidemiology, offers important insights into the relationship between students, schools and mental health across the transition process. It draws on theoretical perspectives on psychosocial and flexible resource distribution, contending that low socio-economic status is associated with lower resources, resulting in greater risk of a problematic transition experience. It also highlights that the school environment may affect how stressful the transition process is for young people, influencing levels of school connectedness and sense of belonging post-transition. The paper concludes by considering how critical realism, in its ontological realism and epistemological relativism, offers an important research paradigm from which to research school transition and mental health.

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## INTRODUCTION

Across childhood and adolescence, young people typically experience transitions between different school settings. In the UK, most young people will transition between primary and secondary school at age 11–12. The transition from primary to secondary school is an important period of change in the lives of young people. It can be associated with feelings of excitement and worry (Moore et al., 2021), and for some young people, mental health may be negatively affected (Jindal-Snape et al., 2020). There is strong evidence that personal characteristics are implicated in how transition may influence mental health. Vaz et al., (2014a) for example, found that young people with a disability or from low socioeconomic backgrounds had poorer mental health post-transition than typically developing or more affluent children, while in a Scottish cohort, West et al. (2010) found that young people with lower self-esteem and lower academic ability reported more difficult transition experiences, with difficult transition associated with higher levels of depression at age 15. Research also suggests that young people who are worried about transition are likely to experience poor mental health outcomes following transition (Rice et al., 2021) and that those from low socioeconomic status (SES) families are more likely to worry about transition (Moore et al., 2021). School environment may also be implicated, as transitioning from a poorer primary school (with a high percentage of children eligible for free school meals) to a more affluent secondary is associated with decreases in wellbeing for children from low SES homes (Moore et al., 2020). Other measures of the school environment, in particular levels of school connectedness, are also associated with young people's mental health across the transition period (Benner et al., 2017; Lester et al., 2013; Vaz et al., 2014b).

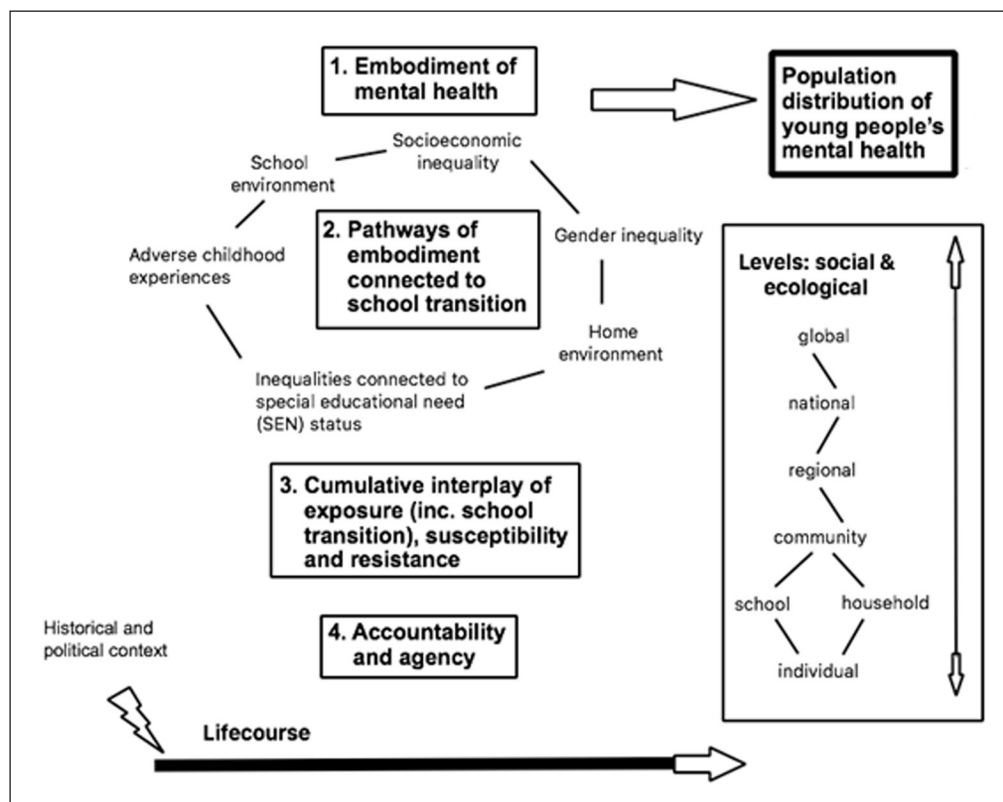
A recent systematic review (Jindal-Snape et al., 2021) argued that there has been a lack of consideration within transition research of appropriate theoretical frameworks for building an ontological and epistemological understanding of school transition. It also suggests that where theories are drawn upon, they are often not adapted for the context of school transition research. This paper will seek to offer one theoretical perspective on school transition and its relationship with young people's mental health using the four core concepts of ecosocial theory, a theory of epidemiology first posited in the 1990s (Krieger, 1994). It will argue that the impact of transition on mental health is mediated by the resources possessed by young people, and that school culture plays a key role in determining the extent to which the transition process is perceived to be, and experienced as, stressful. School transition is argued to be a process operating across ecological levels – individuals, families, schools – and political and historical context, with power and inequality influencing young people's experiences. The impact of transition on mental health is part of a life course within which other transitions, life events and exposures sit. It will further be argued that by adopting the research paradigm of critical realism, transition research can focus on mechanisms operating beneath the empirical level of reality. This may enable better understanding of why mental health is differentially affected by transition, and how schools, in their culture and practices, might determine the activation of these mechanisms, understood within the framework of structured chance and demi-regularities.

## ECOSOCIAL THEORY AS A CONCEPTUAL FRAMEWORK

The ecosocial theory of epidemiology (Krieger, 1994, 2001, 2011, 2014, 2021) seeks to understand the mechanisms of current and changing patterns of social inequalities in health (Krieger, 2011). It dismisses the biomedical reductionist model of research to provide an overarching model of disease distribution by incorporating social, ecological, political, biological, temporal, spatial and historical factors. Ecosocial theory situates itself from the perspective of marginalised people, acknowledging that health is created within a world of inequality of opportunity, finance and power and therefore aims to both reduce health inequalities and change policy and practice (McHugh, 2015). It has been applied to a range of public health issues (for example, Adjaye-Gbewonyo and Vaughan 2019; Hammarström and Virtanen 2019; Smith and Lincoln 2011; Vineis et al. 2020; Vitrai 2018), and is particularly relevant to transition between primary and secondary school because young people's mental health develops within the context of an interaction between biological factors and socio-political structures, which creates unequal and unjust distributions of mental health across schools, and society more broadly.

The ‘ecology’ in ecosocial theory considers the shifting context relating to both living (biotic) and non-living (abiotic) components of the ecosystems in which all species live and die (Krieger, 2011). In ecology, there is a hierarchy of levels, with cells at the lowest level, then individual organisms, populations of the same species, communities of different species, ecosystems, landscapes of multiple ecosystems, and above this the biome and biosphere (Allen & Starr, 2017). Ecological thinking is focused on the connectedness of all species to their environment, interactions across ecological levels, time and space, and the importance of diversity of ecosystems to provide resilience against change, which is vital to the wellbeing of humans, as well as the biosphere as a whole (Krieger, 2021). The ‘social’ in ecosocial relates to how organisms interact within and between species, and specifically for people, includes the formal and informal rules of society and its governance (Krieger, 2021).

Ecosocial theory has four core concepts that are used to understand how health inequality is created by ecological and social processes: embodiment; pathways of embodiment; cumulative interplay of exposure, susceptibility and resistance; and accountability and agency. Each will be discussed in relation to the primary to secondary school transition and are illustrated in Figure 1.



**Figure 1 Ecosocial theory, the primary to secondary school transition and mental health, adapted from Krieger (2011).** Environment (operating at different social and ecological levels and within historical and political context) interacts with individual susceptibilities, resistance and agency to create pathways of mental health embodiment. Individual embodiment over the life course aggregates to form a population distribution of mental health that demonstrates societal inequality.

## EMBODIMENT

Embodiment is the biological process by which the societal and ecological context of daily unjust and beneficial exposures becomes incorporated into the body, creating an “emergent embodied phenotype” (Krieger, 2021, p.3). From individual health status comes population distribution of disease. Embodiment can be viewed as a biological bridge between health exposures and outcomes with the primary predictors of health status being social conditions (Krieger, 2021). For mental health outcomes, biological embodiment is intrinsically linked to exposure to stress (Bystritsky & Kronemyer, 2014; Hammen, 2005; McEwen, 2008). The term stress has negative connotations, but is a reality of living within changing environments and responses to it are vital for survival (Karatsoreos & McEwen, 2011). It is only when stress exceeds an individual’s capacity to cope and adapt that it becomes problematic. Allostasis is the regulatory model used to describe the body’s physiological responses to stressors. It is governed by the brain, which ensures that multiple bodily systems and processes are synced in their response to any stressful event. While stressors include behavioural factors, many stressors implicated in the production of poor mental health are psychosocial in nature, including low socio-economic

status, lack of social support or negative life events (Beckie, 2012). Low socioeconomic status (SES) is associated with chronic stress due to living and working conditions, discrimination, a sense of powerlessness and financial worries (Baum et al., 1999).

When allostatic pathways become overused, due to high, persistent stress, the body, including the brain, experience damage associated with allostatic load (Beckie, 2012). The effects on the body may include damage within the cardiovascular and immune systems, high levels of inflammation, poor cognitive functioning and depression (Karatsoreos & McEwen, 2011; Seeman et al., 2010). There are periods during development where the brain and other parts of the allostatic system are more plastic and thus more sensitive to the effects of stress (Engel & Gunnar, 2019). Childhood adversity (e.g. poverty, neglect, parental addiction) interacts with social environment and genotype to cause biological and epigenetic changes that persist and make an individual more susceptible to physical and/or mental health problems in later life (Engel & Gunnar, 2019). Furthermore, during adolescence, the brain goes through significant change, with some areas experiencing pruning of up to 50% of synaptic connections and others experiencing neuronal growth (Spear, 2013). These changes could make the adolescent brain more susceptible to stress (Romeo, 2017) and might confer vulnerability that helps explain why mental wellbeing often decreases during adolescence and mental illness diagnoses increase (Blakemore, 2018).

Transition has been shown to be associated with increased levels of self-reported stress (Coelho & Romão, 2016), and higher stress levels at transition predict higher school anxiety, lower school connectedness and poorer academic outcomes (Goldstein et al., 2015). Cortisol levels, a biological indicator of stress, are higher in children from low SES backgrounds before and during transition (Lupien et al., 2001). For young people with high cortisol levels prior to transition, who also report finding transition unpleasant, there is an increased risk of poor mental health after transition (Zandstra et al., 2015). There is also evidence that interventions to reduce cortisol levels across the transition period may reduce risk of later depression (Lupien et al., 2013). The model of allostatic load therefore represents a longitudinal perspective to the negative effects that stress can have on the embodied mental health of an individual, highlighting that an individual who experiences greater stress over their lifetime, including during the transition from primary to secondary school, will have greater risk of poor mental health outcomes as they age.

## PATHWAYS OF EMBODIMENT

The second core concept of ecosocial theory describes the pathways that can lead to population-level embodied inequalities in health. These pathways create and structure exposures so that specific groups of individuals are more likely to be negatively impacted, resulting in health inequity (Krieger, 1999). While there are other possible pathways of mental health embodiment that are relevant to school transition, socioeconomic status (SES) will be used to illustrate the concept. It is particularly pertinent to discussions of mental health inequality as it is closely associated with increased allostatic load (Seeman et al. 2010), and the relationship between low SES and mental illness is “one of the most consistently replicated findings in the social sciences” (Hudson 2005, p.3). The definition of socioeconomic status is not without contention, however Oakes & Rossi’s (2003) definition is helpful, with SES viewed as “differential access (realized and potential) to desired resources” (p.775), specifically material capital, human capital, and social capital. Thus, by definition, low SES is characterised by low levels of resources.

The amount of stress an individual experiences is a function of the frequency and intensity of stressful exposures and resources available to an individual to respond and adapt to them. People with lower SES experience more stressors whilst typically possessing fewer resources to respond to them (Adler & Stewart, 2010). They also have less power to positively reshape their environment to reduce stressors. The conservation of resources (COR) theory suggests that stress should specifically be defined as the loss and threat of loss of resources, and that people with fewer resources who experience more threats to their resources, for example, due to low SES, are more vulnerable to the impact of stress (Hobfoll et al., 2016). Two broad types of resources will be discussed further to illustrate their importance: flexible, e.g. material and cultural resources, and psychosocial resources.

Flexible resources are associated with the ‘fundamental causes’ theory of health inequality (Link & Phelan, 2010) which suggests that certain causes of health inequality, such as socioeconomic status, are fundamental because the direction of their effects on health remains stable, even as other mechanisms, health effects and context vary (Valles, 2018). The enduring relationship between SES and health inequalities is argued to be due to flexible resources – money, knowledge, prestige, power, social connections and freedom – that, because they can be used flexibly to respond to changes in risk factors, circumstances and the mechanisms of health production, will always protect the health of those that possess them. Cultural resources, which include skills and knowledge acquired from early life from the family environment (Bourdieu, 1984), are also important flexible resources. School transition provides opportunities for mobilising these resources – more affluent families can pay for private education, move into the catchment area of a ‘better’ school (Leech & Campos, 2003), or in some parts of the UK, pay for 11 plus tutoring to access grammar schools. There is evidence that the flows of students from primary to secondary schools is different for children of high and low SES, with the latter typically transitioning to lower performing secondary schools even when sharing a primary school, and to experience more fracturing of their friendships (Burgess et al., 2008). Cultural resources (measured based on self-report of the educational level of each parent, frequency of visiting exhibitions and the theatre, frequency of reading, and frequency of artistic activity) in secondary school students have also been shown to be positively associated with attainment (Flere et al., 2010) and type of secondary school attended (De Graaf, 1988).

Alongside flexible resources, individuals also possess psychosocial resources that can be used to respond to threats and challenges, contributing to good mental and physical health. Crielaard et al. (2021) refer to these as coping resources. Current research suggests that the strongest evidence is for the roles of optimism, mastery, self-esteem, conscientiousness, extroversion and social support as psychosocial resources (Taylor & Broffman, 2011). Psychosocial resources are built in childhood as the first step towards future mental wellbeing status and childhood socio-economic status is an important mediator of their development (Gallo et al., 2009).

A number of studies have considered psychosocial resources in relation to transition. Coelho et al., (2017) considered the impact of a transition intervention on self-concept, physical self-concept and self-esteem in Portuguese children. They found that while the control group reported lower levels of the psychosocial resources following transition, the intervention group saw increases. A study from Switzerland found that school transition was associated with decreases in global self-esteem and academic, social, physical, and behavioural self-concept, with girls experiencing the steepest decreases (Schaffhuser et al., 2017). In an Israeli sample of middle to high SES young people, Madjar & Chohat (2017) developed a scale to assess transition-related self-efficacy. They found that the social aspects of transition self-efficacy were important predictors of emotional and behavioural engagement post-transition. Similarly, West et al. (2010) found that higher self-esteem prior to transition was associated with a less difficult transition (as self-reported by the students), which was itself associated with lower depression several years post-transition. Research on social support suggests that maintaining friendships across the primary to secondary transition is associated with better academic outcomes and lower conduct problems (Ng-Knight et al., 2018). Stable support from friends across transition has also been shown to be associated with fewer socioemotional difficulties (Benner et al., 2017), and acts as a protective factor against bullying victimisation (Pellegrini & Long, 2002).

Young people who have higher levels of psychosocial resources, particularly when these are also held alongside high availability of flexible financial, power and cultural resources, will be better able to cope with the impact of any school transition-related stress on the body, preserving mental and physical health. Young people who can minimise any impact on their mental health or recover quickly from an initial decrease in mental health, can be said to have greater resilience than those who struggle to adapt (Kalisch et al., 2015; Luthar, 2006).

## **CUMULATIVE INTERPLAY OF EXPOSURE, SUSCEPTIBILITY AND RESISTANCE**

The third core concept in ecosocial theory focuses on cumulative effects of exposures across the life course with reference to levels, time and place. Mental health is not created in a

moment, but as a trajectory over a life course (Elder, 1985) as exposures, such as prenatal maternal stress, low birth weight and adverse childhood experiences interact with individual genotype (Colman & Atallahjan 2010). These exposures have a cumulative effect (Hughes et al., 2017) and diminish available resources, while impacting a child's ability to build more resources (Slavik & Croake, 2006). This, along with the impact of embodied stress which leads to biological changes and increased vulnerability, results in previous stressors becoming a risk factor for future mental illness (McKeever & Huff, 2003). Individuals are constantly negotiating their responses to stressful exposures, at times appearing resistant and at others more susceptible to negative effects. Individuals with greater resources will tend to be more resistant and less susceptible, creating inequalities in the embodiment of mental health.

The predictors of mental health outcomes across educational transitions occur not just at the individual level, but also at school, family, community and societal levels, and involve interactions over time between these environments. The multiple and multi-dimensional transitions theory (MMT) uses the analogy of a Rubik's cube to highlight that children live within a dynamic ecosystem (Jindal-Snape, 2016). Each child and their interactions with others are one colour; their significant others and their interactions are another colour. As a single coloured square shifts, so the whole cube changes in configuration, and other transitions are triggered (Jindal-Snape, 2023). School transition can also be seen to potentially trigger a health transition (for example, a decline in mental health) for some young people, which may also further trigger transitions for themselves and others. School transition thus sits within the context of everything else going on in a child's life, including transitions others close to the child are experiencing.

Thus the cumulative interplay of exposure, susceptibility and resistance is considered in terms of societal and ecological levels, time and place, which support a broad and complex understanding of how health inequalities are created. 'Levels' is an ecological term used to describe organisation of species and environment within one system, from the organism at the lowest level, rising to population, then to community and finally to ecosystem (Ghazoul, 2020). The concept of levels is closely aligned to Bronfenbrenner's (1979) ecological theory of human development, which describes how interconnected, reciprocal interactions between environment and individual result in human development. However, while Bronfenbrenner is solely concerned with human phenomena and excludes other parts of the ecosystem and assumes that social hierarchies are nested (Krieger, 2021), ecosocial theory argues that there are non-nested hierarchies, particularly those associated with power (Allen & Starr, 2017). Power hierarchies, unlike nested hierarchies are not fixed, but can shift as power dynamics change (Allen & Starr, 2017; Krieger, 2011). Ecosocial theory also does not assume that levels act sequentially or only via adjacent levels (Krieger, 2008).

Previous critique has also suggested that Bronfenbrenner's conceptualisation is too simplistic (Neal & Neal, 2013), and MMT addresses this by considering how individuals are part of multiple microsystems, with identities shifting across microsystems, and how the systems and individuals within them are also in transition (Jindal-Snape, 2016). Moving from primary to secondary school should therefore not just be viewed as a physical school move, but also potentially a socioeconomic transition for young people moving between schools of different levels of affluence (Moore et al., 2020).

The resources required for a young person to successfully navigate the transition from primary to secondary school without negative impacts on their mental health is both a function of the baseline level of resources held by that individual, and how stressful the transition to that particular school is for that particular child. In this conceptualisation, children and schools are levels within the ecosystem, with other levels, including family, community and society also influencing mental health outcomes and inequality. Influences are therefore structural as well as individual. While increasing the resources held by young people is one strategy for reducing the burden of transition on mental health, the other is to reduce the resources that students need, by making transition less stressful in the first place. Where schools can do this, it has the potential to reduce mental health inequalities, as it will be most beneficial for children with lower psychosocial and flexible resources.

Strategies for making transition less stressful for young people include building familiarisation with the new school environment (Jindal-Snape, 2016), maintaining friendships across transition

(Ng-Knight et al., 2018), parental participation in the transition process (van Rens et al., 2018) and using creative methods, for example drama workshops (Barlow, 2020; Hammond, 2016) to build student agency and voice across the transition period (Jindal-Snape, 2016). Creative methods can also allow the embodied experiences of transition to be shared and felt, rather than suppressed – Vlieghe (2014) argues that there is a hidden curriculum of teaching students to become productive workers through “bring the body to silence” (p. 326), which may not be helpful, particularly during periods of stress. Teachers have been urged to support learning by encouraging students to expand their bodily movements and habits (Nguyen & Larson, 2015), which may help support better understanding and processing of transition experiences, and in doing so, support mental health. A recent qualitative systematic review of children’s experiences of the primary to secondary transition in England found that they frequently expressed desire for specific transition support, particularly in managing changing relationships (Mumford & Birchwood, 2021). While some school transition strategies appear to be associated with lower anxiety among typically developing children, there is concern that they may simultaneously increase anxiety among children with special educational needs (SEN) (Neal et al., 2016). A systematic review of interventions aimed at supporting mental health across educational transitions, including the primary to secondary school transition (Donaldson et al., 2022), found some evidence of effectiveness for social outcomes, but less evidence for psychological and behavioural outcomes. Interventions however were heterogeneous, and more research is needed to understand how best to intervene over the transition period at different ecosocial levels.

However, despite these transition-focused activities, it can be argued that more fundamentally, schools should be aiming for whole-school approaches that are sustained over time (Goldberg et al., 2019) and that create a culture and environment that promotes belonging and connectedness for all children (Rowe & Stewart, 2009). Such a culture would support the transition process for all children, particularly those with fewer psychosocial or flexible resources, and there is evidence from intervention research that whole-school approaches are effective for improving child outcomes (Bonell et al., 2018; Shinde et al., 2018). Bernstein (1975) suggests that the school can be viewed as a social institution that seeks to transmit two cultural ‘orders’ to its students – the instructional order (pertaining to cognitive development and academic achievement) and the regulatory order (pertaining to affective development and the development of values, beliefs and rules). Where young people are able to commit to the instructional order, they will be able to build practical reasoning (the ability to manage, plan and evaluate our own lives), and where they can commit to the regulatory order, they will build affiliation (the ability to form attachments with others) (Markham & Aveyard, 2003). Schools are central to building practical reasoning and affiliation in their students, and in so doing, provide them with the resources and skills necessary to choose to make decisions that will support their health and wellbeing across the life course (Markham & Aveyard, 2003).

Being able to commit to the school orders and experience high levels of school connectedness requires that the cultural orders are meaningful to young people. When transitioning to a new school students may find that the school culture and their home culture are in opposition to each other. A mismatch between cultures may be associated with socioeconomic status. Bourdieu (1977) argues that the education system reproduces the structural inequalities of society by requiring individuals to understand a cultural code of what is required in order to succeed. While young people from middle class backgrounds may have been taught this code implicitly, young people from less affluent and less well educated families may not have these same cultural resources. Where the new school culture is very different to a child’s home culture and has hidden discourses and expectations, transition, which is the key period when young people are first exposed to the orders of their new educational setting, would be expected to be more stressful and require more psychosocial resources and other flexible resources (such as social capital) to maintain good mental health. It is therefore unsurprising that it is at transition from primary to secondary school that some students begin to disengage from education (Hascher & Hadjar, 2018) and mental health inequalities are at risk of widening (Moore et al., 2020).

Schools that try to reduce boundaries between students, between students and teachers, and between school members and the local community are more likely to create cultures that are informed by the whole student body, rather than an elite minority. Boundaries can be eroded by

encouraging student participation in school decision-making; ensuring greater communication and participation in groups of different ages and backgrounds, fostering greater learning in breadth, introducing peer tutoring and promoting fair play among staff (Markham, 2015; Markham & Aveyard, 2003). A focus on students' personal and social development, rather than just on academic achievement is also important for creating a school that values a broader range of school identities, making it easier for students to feel that they belong and for school to be meaningful to them (Markham, 2015).

Being able to have a positive transition experience and commit to the cultural orders of the new school is important, not just for immediate mental health outcomes, but also because it makes a child more likely to obtain an education. Providing access to a free, high quality secondary education has been called the most single best investment for adolescent health (Patton et al., 2016) and education is one of the most important sources of flexible resources and agency (Link & Phelan, 2010; Ross & Mirowsky, 2010).

## AGENCY AND ACCOUNTABILITY

The fourth core concept of ecosocial theory incorporates both agency and accountability. This concept considers power at each of the societal and ecological levels over time to question who and what is responsible for health inequalities. At the heart of questions of agency and accountability is the agency-structure debate (Cockerham, 2005). Societal structures differentially empower different groups due to an unequal distribution of resources (Abel & Frohlich, 2012). Agency is always tempered by structural constraints which affect both resource distribution as well as the opportunities that an individual can exert agency over, at the same time as reproducing social structure and perpetuating inequalities in society. The health of individuals within a population is not random and uncoordinated as would be expected if individuals had true agency, but exhibits patterning based on social factors and genetic inheritance.

In terms of mental health and the transition process, agency and accountability lie across levels, and are not static over time. At the individual-level, young people often exhibit agency over their lives within a school context that contradict expected patterns (Margolis et al., 2001). They may even be able to limit the possibilities of those acting at higher hierarchical levels within the school due to their larger numbers (Allen & Starr, 2017). However, power is not equal across levels and ecosocial theory argues that "macrolevel phenomena are more likely to drive and constrain meso- and microlevel phenomena than vice versa" (Krieger, 2011, p.225). Thus young people's mental health is highly dependent upon school environment, as determined by teachers and political arrangements (Margolis et al., 2001). Schools with strong boundaries are, by definition, demonstrating power inequalities through their clear hierarchy, and students, particularly those from low SES backgrounds, may struggle to exert agency within that environment.

Agency is created in interaction with environment and schools have an important role in building agency in students. Yet, the extent to which young people can exert agency in their educational lives is likely a reflection of whether they have been provided with opportunities to have agency by those teaching them, and have learnt that it is an option – something less likely to have happened for disadvantaged students (Vaughn, 2020). Specifically considering transition, creative approaches that encourage young people to actively participate in the transition process may also build agency (Jindal-Snape, 2016), which would extend to decisions about what would best support their mental health and wellbeing. Accountability for mental health inequalities arising from the school transition process therefore lies most heavily with structural systems rather than the individual child or family. Schools as well as local and national government have an important role to play in creating cultures that enable every child to influence and commit to the school orders and to find school life meaningful and worth engaging in.

## CRITICAL REALISM, SCHOOL TRANSITION AND MENTAL HEALTH

Research paradigms, as defined by Kuhn (2012) are "the set of common beliefs and agreements shared between scientists about how problems should be understood and addressed" (p.45).



Historically, paradigms within social science have ranged from the extremes of positivism to interpretivism. Yet, neither of these extremes is appropriate for epidemiological research. Positivism collapses ontology and epistemology together, suggesting that what we know is the same as what actually exists (Teddlie & Tashakkori, 2009). It is also highly reductionist, which in mental health, can result in either biological or social factors being preferenced at the expense of the other (Althoff & Hudziak, 2011; Krieger, 2011). Conversely, interpretivism, which allows little space for generalisation, causal relationships or an objective ontology, results in public health problems having no hope of being addressed beyond an immediate context. It therefore undermines aims of progress in public health by ignoring the real effects of biological, social and physical mechanisms in the production of health (Nettleton, 2013). Critical realism (CR) sits between the extremes of positivism and interpretivism; like positivism, it is ontologically realist; but like interpretivism it is epistemologically relativist. Within a realist ontology, CR seeks to uncover objective truth – what would be obtained from a “God’s eye perspective” (Nagel, 2014, p.11) – but it does this from a position of epistemological relativism: our representations of objective truth will always be partial, fallible and situated in the perspectives from which they were observed. Bhaskar (2017) describes the ‘real’ world as intransitive – it is stable and independent of us. However, our perceptions of it are transitive, constantly changing and developing (Gorski, 2013). This is reflected in Pilgrim & Bentall (1999)’s discussion of how depression has been conceptualised by different people at different times. It highlights that within CR, theories of reality, but not reality itself, are seen to be constructed, and therefore examining the historical and social context in which concepts have been developed is vital. School climate, for example, which has a long history in educational research and is strongly implicated in transition outcomes (Lester & Cross, 2015), is being frequently reconceptualised in light of new empirical findings and new perspectives (Marraccini et al., 2020; McGrath et al., 2020; Rudasill et al., 2018; Wang & Degol, 2016).

In CR, reality is viewed as consisting of three layers: the ‘real’, where causal properties or ‘mechanisms’ of social objects reside, much of which is invisible (Letherby et al., 2013); the ‘actual’ which includes all events generated by mechanisms; and the ‘empirical’ which solely includes those events that can be observed or experienced (Zachariadis et al., 2013). In studying mental health and transition, the empirical level includes any quantitative measures used to assess mental health or other constructs, correlations between variables and qualitative descriptions of the transition process. At the actual are the young people, their schools, the transition process, mental distress, poverty, inequality and interventions. At the real are the mechanisms explaining why transition, inequality and mental health are correlated. These mechanisms will be multiple and will operate within and across all levels, involving political, economic, social and biological mechanisms, as well as mechanisms deriving from the agency of individuals. Critical realism incorporates all levels of mechanisms, from macro to micro, as well as their interactions. This paper has argued that a mechanism of differential resource distribution is key to understanding the mental health inequality associated with school transition. Other research, for example, Karadzhov (2021) has used critical realism to explore inequality-generating mechanisms within mental health research, arguing that structural mechanisms become visible through human distress, hopelessness and self-neglect. One of the few transition studies that has used an explicitly critical realist approach is Grant (2020), which explores experiences of transition for children with SEN and adopts a critical realist framework from which a grounded theory methodology is used to explore the different layers of realities for young people across transition, and doing so, to develop a theory for intervention.

Mechanisms in CR are context dependent and associations between events are known as ‘demi-regularities’ which indicate “the occasional, but less than universal actualization of a mechanism or tendency” (Lawson, 1997, p.204). Causality and activation of mechanisms is therefore probabilistic, not deterministic, however, the social world contains sufficient invariance for context-dependent generalisations (Letherby et al., 2013). There is also a central focus on causal mechanisms within ecosocial theory, many of which will not be visible, and time, place and historical contingency help determine causal relationships. Mechanisms act within and across ecological and social levels. Ecosocial theory uses a concept of ‘structured chance’ to describe how while there is randomness within disease distribution, societal and ecological contexts, such as SES, can determine the probability of each health outcome and shift distributions in different directions by increasing exposure and risk (Krieger, 2021). The

impact of transition on young people's mental health during the primary to secondary school transition is thus probabilistic based on a range of known and unknown risk factors, likely to include genetics, previous trauma, socioeconomic status, friendship stability, and having special educational needs (Evans et al., 2018; Jindal-Snape et al., 2020; Ng-Knight et al., 2018) and individuals also have agency to help further modify these probabilities. In transition research, there is often a focus on individual as well as structural mechanisms – for example those associated with socioeconomic status (Moore et al., 2021; Moore et al., 2020), parenting (Ng-Knight et al., 2016); school transition policies (Ahtola et al., 2016); physical school environment (Harrison et al., 2016); age (Bagnall et al., 2021); special educational needs status (Bunn & Boesley, 2019); and school climate (Madjar & Cohen-Malayev, 2016).

Alongside ontological realism and epistemological relativism, a third key concept in critical realism is judgemental rationality (Bhaskar, 2017) which states that despite the limits to our knowledge about the world, not all knowledge is equal and that it is possible to make rational decisions about which theories provide the most accurate depictions of the 'real' (Price & Martin, 2018). Closely linked to this is the idea that critical realism is 'serious' (Bhaskar, 2017) – it is "deeply concerned" with policy change and takes the stance that "morality, human rights, justice, freedom and compassion" are ontologically real (Alderson, 2021, p.119). This is also an important tenet of ecosocial theory, in which Krieger (2011, p.246) argues that some results are "more valid and beneficial" than others for improving health and that ultimately, epidemiology must seek to improve health and eliminate inequalities. Thus, within transition research, there is frequently an overarching aim of improving outcomes for young people, and interventions, although not always being forthcoming with a clear theory of change, often focus on individual, family and school level factors as being key to influencing generative mechanisms (Donaldson et al., 2022).

Critical realism is methodologically pluralist, and the methods chosen will depend on the research question. In research with young people experiencing transition, it is important to note that embodied knowing – "...experiential knowing that does not (yet) have words" (Craig et al., 2018, p.330) – may mean that experiences of transition and their impacts on mental health may not be something that young people can easily verbalise. Transition occurs within a liminal space, defined as a state of being, shrouded by ambiguity and identity incoherence that occurs between two points in time and space (Tomlinson, 2023). Surfacing these hidden transition insights in order to better support young people's mental health, may require approaches that acknowledge the importance of corporeal knowledge and acknowledge the lack of division between mind and body (Merleau-Ponty, 2012). Narrative approaches may be useful for uncovering embodied knowledge (Craig et al., 2018).

In order to uncover mechanisms, CR proposes the use of retroduction. Retroduction involves asking 'what must the world be like for this to occur?' by imagining possible mechanisms based on empirical phenomena and then iteratively selecting the most likely causal mechanism (Alderson, 2021). Price (2016) is clear that retroduction is not a practice that researchers should be undertaking in isolation, but should be an activity that invites the views of lay people, particularly when considering 'wicked problems' such as health inequality. The voices of students, parents and school staff involved in the transition process, could thus help uncover how psychosocial and flexible resources act as potential mechanisms that mediate the relationship between school transition and young people's mental health. This would enable building greater understanding of how psychosocial and flexible resources limit young people's capacity to maintain their mental health across educational transitions, and whether some resources appear to be more important than others. It could also explore the mechanisms operating within each resource type to understand how and why each resource has its effect, as well as questioning whether other mechanisms are in operation, including how student agency acts to determine transition experiences.

## CONCLUSION

This paper has sought to argue that ecosocial theory, used alongside critical realism, offers a set of tools for studying and deepening understanding of how mental health might be impacted by the primary to secondary school transition. By building on critical realist approaches, there should be a focus on uncovering hidden mechanisms connecting mental health and

school transition using retroductive methods. It is also important to consider which contexts (particularly in relation to time, level and place) might activate mechanisms and which might not. Both critical realism and ecosocial theory are aligned with moral realism, and there should therefore be an emphasis on developing policy recommendations that would help improve mental health outcomes and reduce mental health inequalities. And finally, findings should be considered in light of accountability, agency and power inequalities – who is responsible for health inequalities at each ecological and societal level, and what needs to change to address any imbalance.

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## COMPETING INTERESTS

The authors have no competing interests to declare.

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