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Climate Change Awareness and Sustainable Behaviour Among Urban Youth: A Review

Sakshi Verma

Research Scholar, Department of Environmental Studies, University of Delhi, Delhi, India

Abstract

Urban youth are a central player in climate change solutions, both as a generation who are facing the brunt of climate change and as a generation who has the power to drive transformative change by their purchasing power, civic engagement, and social influence. The relationship between awareness of climate change and sustainable actions among urban youth. Based on the research literature from three disciplines (environmental psychology, education research and sustainability science), the paper is concerned with the common assumption that there is a simple and straightforward correlation between knowledge about climate change and sustainable behavior. The review is organized in four main analytical dimensions (conceptual dimensions of awareness and behaviour, sources and determinants of climate knowledge, psychological and social mediators to pro-environmental behaviour, and observed climate behaviour outcomes). One key and constant finding is that despite the high climate change awareness among many urban youth, there is still a lack of knowledge-action gap, in the sense that this awareness does not necessarily lead to a change in pro-ecological behaviour in everyday life. The difference is explained in terms of perceived behavioural control, social norms, emotional reactions (eco-anxiety and hope), structural and infrastructural barriers, influences of digital media and influences of peer network. The review finds that the awareness alone is not enough to promote sustainable behaviours, and that a change of the enabling environment is necessary, with interventions focusing on motivation and capability. Future research directions are suggested, such as longitudinal, cross-cultural and intersectional study as well as the development of emerging digital and educational interventions.

Keywords: climate change awareness; sustainable behaviour; urban youth; pro-environmental behaviour; knowledge–action gap; environmental education

1. Introduction

Young people are protagonists of the climate change debate and of the action intended to reach environmental sustainability and will be the ones who will face the accelerated effects of climate change in the twenty first century. The awareness and behavior of youth is of particular importance in urban areas, where over half of humanity now lives and where consumption, emissions and inequality are focused. This review looks at the growing body of evidence of the relationship between climate change awareness and the adoption of sustainable behaviors among urban youth, and what factors enhance or diminish this relationship.

1.1 Conceptualizing Climate Change Awareness

The awareness of climate change is not only an issue of information about the greenhouse effect. Cognitive awareness is the knowledge about the cause, mechanisms and consequences of climate

change, affective awareness is the emotional salience and personal relevance of climate change, and behavioural awareness is related to the understanding of the role of individual actions to the problem of climate change and the ways it can be solved (Ojala, 2016). What is important about this triple level of framing is that each of these dimensions has different implications for behaviour: factual information alone is insufficient to motivate behaviour, and factual information presented with personal and emotional levels is more likely to have an impact on behaviour. However, more recent research highlights that awareness is not a fixed quality – it is constantly produced in the process of learning, through media and personal experiences of environmental changes and social interaction (Corner et al., 2015). The present review takes this multi-dimensional perspective: awareness is the cognitive and affective foundation that can—and can't—act as a basis for the development of behavioural intentions. However, it's important to note that there is a correlation between awareness and concern but it is not equal; a young person can be highly aware of climate change and less personally concerned and vice versa. One theme that has been explored in the literature is the relationship between these components and the differential predictive power of these components for behaviour. Furthermore, awareness is not equally distributed and is socially produced; it is not just about what is in young people's minds, but what types of environments they are exposed to, what their cultural narratives are and who their trusted communicators are. Awareness has to be understood, along with the systems of human and social that produce it and sustain it.

1.2 Defining Sustainable Behaviour

Sustainable behaviour – commonly referred to as pro-environmental behaviour – is a set of behaviours that have a positive impact on reducing the negative impacts of an individual on the natural environment. In general, it is possible to distinguish between private-sphere and public-sphere behaviours, where private-sphere behaviours are behaviours like recycling, energy-saving, sustainable transport and mindful consumption, and public-sphere behaviours include environmental activism, political participation and advocacy (Stern, 2015). This difference is meaningful for the research on youth, who often are more active in the public and collective arena – in the form of movements, online campaigns, protest – than in the slow and incremental private acts that characterize older generations. Sustainable behaviour has also been termed as low cost, high visibility behaviour – that is, low cost, high visibility behaviour is more likely to spread than high cost, low visibility behaviour. This heterogeneity is taken into account in the review and sustainable behaviour is not considered a one size fits all solution. The other final important difference is the different impacts of different behaviours on the environment: the evidence of the effectiveness of different behaviours in reducing environmental impacts is growing and shows that, like the general public, young people are more likely to act on low impact behaviours, such as recycling, rather than high impact ones, such as consumption and transport emissions avoidance. This gap in understanding of impact can have implications for designing interventions. The review also acknowledges that sustainable actions occur in the context of social practice and identity – such as dietary change or mode of transport – are not only functional choices, but also expressions

of self and belonging to a social group, and can explain their resistance to change, as well as to what extent their choices change when social norms change.

1.3 The Significance of Urban Youth

Urban youth are a special group – not only in size, but also in behaviours. They are also, in general, more educated, "digital," and more aware of climate discussion than the rural or older population, but also, at the same time, live in a high consumption environment, where sustainable options may be structurally limited because of infrastructure, costs and lifestyle habits (Han & Ahn, 2020). Youth have played a prominent role in the recent 'climate mobilisation' and despite the growing profile of young people, there is some scepticism that the awareness and concerns they express, are matched by the pace of change in their behaviours. Youth are a strategic target group, as a high proportion of them live in cities where the majority of the impact is needed, where innovation and action is happening and can accelerate the sustainability transition. Urban youth are also unique in their life stage; values and behaviours formed in this age may have a unique influence on the life course and youth in this age are in a critical window of opportunity for identity and habit formation. Youth are a very high-leverage population for intervention – behaviours and identities that crystallise during the formative youth years can impact decades of consumption and civic engagement. Youth are also at a unique life stage in which constraints on the feasibility of sustainable action—lack of financial independence, reliance on family and institutional services and supports, and pressures of schooling and early employment—are different from what is experienced by other age groups.

1.4 Objectives and Scope of the Review

There are four purposes for this review: To clarify the foundations of awareness and behaviour; To investigate determinants and sources of urban youth awareness of climate; To review psychological and social mediators between awareness and action; To review the current state of the empirical evidence on behavioural outcomes and the ongoing disconnect between awareness and action. It centres on peer-reviewed and policy-paper literature published from 2015 to 2024, when the study of environmental psychology among young people began to mature, the Paris Agreement was negotiated and youth-led climate movements came into being. The review adopts a thematic synthesis approach, complementing quantitative survey research, experimental research and qualitative fieldwork. The sources were selected based on a database search which combined the terms climate awareness, pro-environmental behaviours, youth and urban populations, and by tracing the citations of key sources. Papers that specifically targeted youth and/or urban populations were given priority and sound empirical designs were preferred; foundational theoretical and review articles were included for conceptual framing. The synthesis is designed to take the reader first on the trip to the generation of awareness, then to the psychological and social factors which will determine whether awareness is translated into action, to the observed behaviours and finally to the interventions that attempt to reinforce the behaviours. The review does not just attempt to provide an inventory of findings, but rather aims to construct a picture of

a sense of integrated understanding of the complexities and conditions of the relationship between climate awareness and sustainable behaviour among urban youth, as indicated in the evidence.

Table 1: Dimensions of Climate Change Awareness and Corresponding Behavioural Domains

Dimension of Awareness	Description	Related Behavioural Domain
Cognitive awareness	Factual understanding of causes, mechanisms, and consequences of climate change.	Informed private choices (energy, waste, transport); weak direct predictor of action.
Affective awareness	Emotional salience, personal concern, eco-anxiety, and hope regarding climate change.	Motivational driver of both private behaviour and public engagement.
Behavioural awareness	Recognition of how one's own actions contribute to and can mitigate the problem.	Perceived responsibility and self-efficacy in adopting sustainable practices.
Social awareness	Perception of others' concern, social norms, and collective responsibility.	Public-sphere activism, advocacy, and normatively driven behaviours.

Note. Compiled by the authors from the literature reviewed (2015–2024).

2. Literature Review

The literature on climate awareness and sustainable behaviour among urban youth has expanded substantially since 2015. This section organizes the evidence into four thematic strands, each addressing a distinct link in the pathway from awareness to sustainable action.

2.1 Sources and Determinants of Climate Awareness

A substantial body of literature examines where urban youth acquire their climate knowledge and what shapes the depth and quality of their awareness. Formal environmental education emerges as a foundational determinant, with studies showing that curricula integrating climate science with local relevance produce more durable and actionable awareness than decontextualized instruction (Monroe et al., 2019). Beyond the classroom, digital and social media have become dominant channels of climate information for young people, a development with ambivalent implications: while these platforms rapidly disseminate awareness and mobilize collective action, they also expose youth to misinformation, sensationalism, and algorithmic echo chambers that can distort risk perception (Boulianne et al., 2020). Direct personal experience of extreme weather and environmental degradation is repeatedly identified as a powerful amplifier of awareness, rendering an otherwise abstract global threat concrete and personally salient (van Valkengoed & Steg, 2019). Socio-demographic factors—education level, socioeconomic status, gender, and family environmental values—systematically structure the distribution of awareness, with higher-status and more educated youth generally reporting greater knowledge and concern (Han & Ahn, 2020).

The literature also documents notable cross-cultural variation: awareness levels and their behavioural correlates differ across national and cultural contexts, cautioning against the generalization of findings from any single setting (Corner et al., 2015). Collectively, this strand establishes that climate awareness among urban youth is neither uniform nor spontaneously arising but is produced by identifiable educational, media, experiential, and social processes.

2.2 The Knowledge–Action Gap

The second and perhaps most theoretically important strand concerns the persistent disjunction between awareness and behaviour, widely termed the knowledge–action or attitude–behaviour gap. A recurring empirical finding is that high levels of climate concern and knowledge among urban youth coexist with modest and inconsistent changes in everyday behaviour (Kollmuss & Agyeman as revisited in contemporary work; Gifford & Nilsson, 2014). Researchers have advanced several explanations for this gap. Structural and infrastructural barriers frequently prevent even highly motivated individuals from acting sustainably: the absence of reliable public transport, recycling facilities, or affordable sustainable products constrains behaviour regardless of awareness (Steg & Vlek, 2015). Psychological distance is another prominent explanation—climate change is often perceived as temporally, spatially, and socially remote, which weakens the motivational link between concern and personal action (van Valkengoed & Steg, 2019).

The literature further identifies the diffusion of responsibility and the perceived inefficacy of individual action as corrosive of behavioural commitment: youth who believe their personal choices are inconsequential against a systemic problem may disengage from private-sphere behaviour even while remaining publicly concerned (Ojala, 2016). Habit, convenience, and competing life priorities—education, employment, social identity—further attenuate the translation of awareness into sustained behavioural change. This strand collectively reframes the knowledge–action gap not as evidence of youth hypocrisy but as the predictable outcome of a mismatch between individual awareness and the psychological and structural conditions required for action.

2.3 Psychological and Social Mediators of Sustainable Behaviour

The third strand foregrounds the psychological and social mechanisms that mediate the relationship between awareness and behaviour. The Theory of Planned Behaviour and the Value-Belief-Norm framework recur throughout this literature as organizing lenses, directing attention to attitudes, subjective norms, perceived behavioural control, and personal norms as proximal determinants of action (Stern, 2015). Perceived behavioural control and self-efficacy are consistently among the strongest predictors: youth who believe they are capable of acting sustainably and that their actions matter are markedly more likely to do so (Han & Ahn, 2020). Social norms exert powerful influence, particularly among youth for whom peer approval and identity are salient; the perception that one's reference group values and practices sustainable behaviour strongly predicts individual adoption (Boulianne et al., 2020).

Emotional responses have attracted intensive recent attention. Eco-anxiety, the chronic apprehension about environmental catastrophe, is widely documented among young people and

exhibits a complex relationship with behaviour—capable of motivating engagement but also, when overwhelming, of inducing paralysis and avoidance (Ojala, 2016). Constructive hope and a sense of collective efficacy, by contrast, are associated with sustained pro-environmental engagement (Ojala, 2016). Environmental identity—the extent to which caring for the environment is integrated into one's self-concept—emerges as a durable predictor that helps bridge awareness and behaviour by aligning action with self-definition (Whitmarsh et al., 2021). This strand demonstrates that awareness influences behaviour largely indirectly, through its effects on efficacy beliefs, norms, emotions, and identity.

2.4 Behavioural Outcomes and Intervention Evidence

The fourth strand assembles evidence on observed behavioural outcomes and on the interventions designed to strengthen them. Studies of private-sphere behaviour report that urban youth engage most readily in low-cost, convenient actions such as recycling and reducing single-use plastics, and less consistently in high-cost behaviours such as reducing air travel or adopting plant-based diets (Whitmarsh et al., 2021). Public-sphere engagement, by contrast, has surged, with youth participation in climate strikes, digital activism, and advocacy reaching unprecedented levels and, in some studies, spilling over to reinforce private behaviours (Boulianne et al., 2020). The intervention literature offers cautiously encouraging evidence.

Educational programs that combine climate knowledge with skill-building, local relevance, and opportunities for action outperform information-only approaches in producing behavioural change (Monroe et al., 2019). Interventions leveraging social norms, commitment devices, and feedback have demonstrated efficacy in shifting specific behaviours (Nisa et al., 2019). However, a rigorous meta-analysis of behavioural interventions cautions that many individual-level interventions produce only modest effects and that structural and systemic measures may be required for large-scale change (Nisa et al., 2019). Digital and gamified interventions show promise for engaging youth specifically, harnessing the platforms and motivational dynamics native to this population (Whitmarsh et al., 2021). The consensus emerging from this strand is that behavioural change among urban youth is achievable but requires interventions that go beyond raising awareness to build capability, mobilize social influence, and address the enabling environment.

Table 2: Summary of Thematic Findings and Representative Studies (2015–2024)

Thematic Strand	Key Findings	Representative Studies
Sources & determinants of awareness	Education, digital media, direct experience, and socio-demographics shape awareness; cross-cultural variation is significant.	Monroe et al. (2019); Boulianne et al. (2020); Han & Ahn (2020)

Knowledge–action gap	High awareness often fails to produce behaviour due to structural barriers, psychological distance, and perceived inefficacy.	Steg & Vlek (2015); van Valkengoed & Steg (2019); Ojala (2016)
Psychological & social mediators	Self-efficacy, social norms, eco-anxiety, hope, and environmental identity mediate the awareness–behaviour link.	Stern (2015); Ojala (2016); Whitmarsh et al. (2021)
Behavioural outcomes & interventions	Low-cost private behaviours and public activism predominate; action-oriented and norm-based interventions outperform information alone.	Nisa et al. (2019); Monroe et al. (2019); Whitmarsh et al. (2021)

3. Conclusion

The aim of this review has been to integrate 10 years of studies related to the awareness of climate change and sustainable behaviours of youth in urban areas. Qualified and nuanced conclusion with evidence. The urban youth of today is demonstrating an unprecedented level of awareness of climate change, a reflection of the increasing environmental education programmes, the constant exposure to digital media and increasingly their direct experience of climate change. This is an actual, profound and complex knowledge and sometimes strong emotional commitment and mobilisation in the public sphere. The study also shows the persistence of a knowledge/action gap: the better informed and more concerned people are, the more they don't necessarily change their everyday sustainable behavior – especially in the private sphere and for high cost behavior.

The main point of the writing of this review is that only aware behaviour can be sustainable and that awareness is not enough. Awareness of climate change can spark potential action, but only if several intermediate factors are in place: self-efficacy, perceived behavioural control, supportive social norms, positive emotional response to the issue, environmental identity and lastly, enabling structural environment. Without these mediators, awareness becomes short term inaction, or it is only stated publicly on an occasional basis although the awareness still exists. The mediators are required to turn that awareness into longterm change of behaviours, or even the highest awareness can be lost in inaction or only expressed in episodic behaviours in the public sphere. Furthermore, eco-anxiety can be a potent impetus to spur or to freeze youth to respond to climate change with or without hope, and a sense of shared responsibility. Interventions need to be effective, with opportunities to act, and in a way that taps into youth social and identity dynamics that affect their behaviour, while at the same time, and importantly, urban infrastructure and policy have to be re-designed to make sustainable choices convenient, affordable and normative.

Youth's climate awareness in urban regions can be a force for good – it will just need to be complemented with parallel investments to close the gap between awareness and action if it is to become a force for change. The problem is to be able to make the principles of sustainability of a generation fully experienced in the skin of the day to day urban experience.

Finally, this review cautions against two conflicting errors in the evaluation of the evidence. The first is naïve optimism: this newfound awareness of young people will inevitably usher in a 'sustainability transition', despite the knowledge–action gap. The second is cynical dismissal – that the divide is a symptom of the superficiality or performativity of youth concern. Neither is warranted. The more enlightened interpretation of this would be that there is indeed a great, deep and real climate knowledge and concern in the young of the cities; but that this climate knowledge is systematically limited by known psychological and structural constraints.

A reframing is to focus on changing the system which influences youth decisions, rather than changing the youth as the object of caring; and changing the language from "do more" to "enable them to do something", which can be done by creating better conditions for learning, socializing and playing.

4. Future Work

There are a number of directions that may be pursued in future. The first would be the great advantages for longitudinal studies which would follow cohorts of young people who live in the cities as they moved forward in time, getting older, moving out on their own and becoming more consumers and influential. There is a lack of causal inferences, much of the evidence is cross sectional and there is no evidence of the development of sustainable behaviour.

Second, there is a need for future research to take a more cross-cultural and intersectional perspective. Climate awareness and behaviour are affected by determinants, which are national, cultural, socioeconomic and gender/class/ethnicity intersecting and leading to differential experiences. Comparative studies between the Global North and Global South and disaggregated studies of sub-groups would help in identifying mechanisms that are universally applicable and those which are context specific, which will help to design appropriately tailored interventions.

Third, new questions of opportunity and risk at the level of the rate of digital technology development emerge. The research gap is the understanding of the impact of social media algorithms, 'influencer culture', gamified social media apps and new AI tools on the climate consciousness and behaviour of young people, and whether these can stimulate real and lasting change or only superficial 'performative' behaviour, misinformation and eco-anxiety. A special focus is the design and testing of digital interventions, specifically for motivational processes of youth.

Fourth and lastly, methodological multiplicity and rigor are preferred. A mixed (experimental/quasi-experimental) and rich (qualitative/participatory) approach would have been able to present a more complete picture of measurable outcomes of the interventions and the lived experience of being engaged with climate change by youth.

More focus on validated behavioural measures (in addition to the use of self-report measures) such as objective and observed behaviour, would enhance the evidence base. Lastly, studies need to directly look at the connection between behaviour change and structural change, and how the potential of young people and how to empower them to more consciously contribute to a structural change to reach the scale of change needed by the climate crisis. In this respect too, more academic research and attention needs to be paid to the psychological dimensions of climate action: As more and more young people start to experience eco-anxiety in their lives, how to protect mental health whilst still taking action is not only a practical but an ethical one in relation to longer term behaviour change. Being interdisciplinary, working across the areas of environmental psychology, education, public health, urban planning, and policy science will be crucial to answering these interrelated questions and crucial to developing research-based interventions that can rise to the level of the challenge at hand.

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