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A Social-Psychological Study on the Impact of Short Video Platform Algorithms on Adolescents' Self-Identity Construction

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Abstract

With the rapid development of mobile internet and short video platforms, artificial intelligence algorithmic recommendations are reshaping adolescents' information exposure pathways and self-identity logic. Adolescents are in a dynamic phase of constructing their values, identity awareness, and psychological structure. In the process of information distribution guided by 'interest matching,' algorithmic recommendations have gradually formed an identity mechanism characterised by entertainment, labelling, and segmentation. This paper examines the mechanisms and potential risks of algorithmic recommendations in the construction of self-identity among adolescents from a social psychological perspective. The study found that the content ecosystem of short video platforms reinforces adolescents' interest labels and value preferences through algorithms, inducing them to form fragmented self-perceptions and labelled identity recognition, which in turn leads to instability in individual identity and ambiguity in social belonging. In the context of incomplete individual development, adolescents are prone to losing their ability to actively construct their self-identity in the face of personalised algorithmic recommendations, instead passively accepting the rigid roles shaped by the platform, thereby exacerbating identity anxiety among adolescents. Based on this, this paper proposes establishing intervention mechanisms across family education, school guidance, and platform governance to create a diverse and open information environment, enhance teenagers' media literacy and psychological resilience, and promote the healthy, rational, and autonomous development of their self-identity.

Keywords

Algorithmic recommendations, Teenagers, Self-identity, Personality labels, Subculture

1. Introduction

In the context of the continuous development of artificial intelligence technology, algorithmic recommendation has become an important operating mechanism for short video platforms. Short video platforms represented by Tiktok, Bilibili, etc., analyze users' interests, behavioral trajectories and interactive preferences through algorithms to push highly personalized information content. This push mechanism has greatly changed the way people access information and reshaped the logic of information dissemination and media environment. The 55th statistical report on China's Internet development shows that as of December 2024, the number of Internet users in China exceeded 1.1 billion, reaching 1.108 billion, and the proportion of those who use cell phones to access the Internet reached 99.7%; among them, the proportions of Internet users aged 10-19 and 20-29 years old were 13.0% and 13.1% respectively. As the main force of short video platforms, the youth group's media use behavior, cognitive mode and social psychological construction process will be influenced by AI algorithm pushing. Individuals in adolescence are facing the key developmental task of establishing self-identity, and their cognitive system and social judgment ability are not yet fully mature. At this stage of development, the individual's ability to judge online video content is highly susceptible to the selective exposure of the algorithmic recommendation system and the reinforcement of the learning mechanism, which in turn leads to systematic deviations in the dimensions of value orientation and social role cognition.

In recent years, research on the impact of short video platforms on adolescents has mostly focused on the presentation of negative effects such as network addiction, fragmented knowledge, and entertainment orientation, but less on the in-depth analysis of how algorithmic technology affects adolescents' psychosocial development, especially the structural effect on the process of their self-identity construction. Short video platforms have constructed an information environment based on interest preferences through AI algorithm personalized recommendation, which inadvertently interferes with adolescents' cognitive structure of the real world and the path of self-role orientation. Algorithmic pushing meets the needs of adolescents for interesting, instantaneous, and personalized content, and guides them to form their self-identity and perception of society, but this may be largely based on fragmented, superficial, and entertaining media content, which lacks realism, depth, and reflectiveness. Under the influence of algorithmic technology, the communities of interest constructed by short video platforms continue to strengthen the consistency of internal opinions and the isolation of external information, and teenagers are prone to form a self-identity model based on the reference of "platform self" under the recommendation of algorithms. This process of identity construction deviates from the diversified cognitive structure that young people should have, and may even lead to the homogenization of identity content, virtualization of identity objects, and emotional tendency of identity basis.

The impact of algorithmic recommendation on users and the real society has attracted great attention from the state authorities because it is not a value-neutral technology, and its neglect of "ideology"

poses a number of challenges to the leadership of socialist ideology (Cai, Ziguo, and Kong, 2021). The purpose of this paper is to analyze, from the perspective of social psychology, how algorithmic pushing on short video platforms affects the formation and stability of adolescents' self-identity through the reshaping of information structure, reinforcement of circles, and emotional drive, to reveal the cognitive induction mechanism and the logic of psychological control behind algorithmic pushing, and to reflect on the potential risks to adolescents' healthy growth, with a view to providing references to media literacy education for young people and the platform's ecological governance of content.

2. Mechanisms of Algorithmic Pushing on Short Video Platforms Influencing the Construction of Youth Self-Identity

The theory of self-identity proposed by British sociologist Anthony Giddens refers to the situation in which an individual, in the practice of daily life, through interactions with other people and the social environment, self-reflects with reference to his or her own state, integrates the events he or she has experienced, the information he or she has been exposed to, and his or her own trajectory, and slowly develops a situation that is harmonized with the self as understood by self-reflection (Giddens, 1998). In the context of the digital media environment, especially the short video platform, which has increasingly become the main channel for adolescents' information acquisition and daily expression, the way of constructing self-identity has also changed, and the algorithmic pushing mechanism is altering the traditional logic of interaction between the individual and the social environment, which in turn affects the path of development of his or her self-identity.

2.1 Conformity Preference and Selective Exposure: The Tendency of Monotization of Self-Identity Content

The algorithmic recommendations on short video platforms are based on user behavior data to deliver personalized content, reflecting an understanding and response to users' interests and preferences. User-uploaded video content is digitally processed and stored in the platform's database. The platform's backend system then applies "tagging" to the video content, which is subsequently fed into artificial intelligence for deep learning. AI analyzes and understands video content and user characteristics, then uses predefined and designed content distribution models to automatically and precisely recommend video content (Li Yingyan, Shen Qiwu, 2024). The design of recommendation logic is the core of algorithm operation. Common recommendation logics include collaborative filtering, content association analysis, and decentralized recommendation. Collaborative filtering recommendation models match similar user behavior data to recommend content similar to the user's interests; content association analysis models push videos highly related to the user's current viewing content based on content themes; decentralized push models weaken the traditional editor's dominant role in content selection, relying on user behavior analysis and preference prediction to achieve precise identification and fulfillment of user needs (Yin Siyun, 2024). The information consumption of young people is often strongly influenced by emotions and interests, with strong content preferences and frequent interactive

behavior, providing platforms with high-density behavioral profiling data for algorithms. Algorithms optimize content recommendations based on user behavior features such as likes, comments, and dwell time, continuously delivering videos that users "like" or are "familiar with", thereby reinforcing the feedback loop between individual preferences and media content. Some adolescent users may frequently view specific types of appearance-related videos, such as the "A4 waist" or "manga legs" challenges. Algorithms may continuously push similar content, leading to a narrowing of their criteria for evaluating their own appearance and potentially triggering body image disorders.

In this cycle, the information content that adolescents are exposed to becomes increasingly narrow, exhibiting highly personalized yet structurally monotonous characteristics. Prolonged algorithmic recommendations gradually confine users within an "echo chamber" constructed by their own interests, with self-perception continuously reinforced by repetitive exposure to similar content. Platforms trap users within a cocoon of homogenized information, prioritizing economic benefits over social benefits. They persist in pushing short, fast-paced content to occupy users' fragmented time, which, over time, can lead to a decline in social cohesion (Li Juanjuan, 2025). For example, under the influence of online trends like "depressive culture" and "lying flat philosophy", young people may develop negative emotions due to algorithms continuously pushing related content, mistakenly believing these are widespread societal attitudes. This structured preference reinforcement mechanism weakens teenagers' desire to explore their diverse identities, trapping their self-identity in a "passively constructed" state by algorithms, thereby solidifying their individuality within the information structure through technological logic.

2.2 Information Filtering and Mimetic Environment Construction: Superficialization and Fragmentation of Reality Perception

Short video platform algorithms do not simply present information when recommending content; instead, they conduct precise analysis of user behavior and preferences to filter out information that does not align with their interests. The algorithmic recommendation mechanism controls the user's content exposure through information sorting and priority adjustments, thereby diminishing the user's autonomy in choice, a phenomenon referred to as "algorithmic hijacking" (Zhang Zheng, Sun Haihui, 2024). The resulting information structure is no longer an open and diverse knowledge field but a "pseudo-environment" constructed by technology—a seemingly real yet highly customized information space. For adolescents, this customized environment serves as their primary window to understand the world, with their comprehension of society, life, and self largely derived from the "reality" presented by online platforms. The advantage of algorithmic recommendations in shaping pseudo-environments lies in overcoming temporal and spatial barriers. Temporally, algorithmic recommendations adapt to the fragmented and instantaneous viewing habits of young people; spatially, they can also tailor information based on the geographic location or life context of young users (Tao Xiandu, Li Xiaonan, 2024). The depth and breadth of information are drastically compressed due to the platform push favoring the intersection of sensory stimulation and traffic value. The personalized recommendation

oriented to user interests and preferences is essentially a similarity push mechanism, and the cyclic reinforcement of "interest-click-similar recommendation" in the algorithmic mechanism will trap the user in a single information environment, and the exposure to information content becomes increasingly homogenized, resulting in the narrowing of individual cognition and extremity of information. The increasing homogenization of information content causes the narrowing and polarization of individual cognition, induces the "island effect", and may exacerbate the knowledge gap between individuals, building an information wall in a subtle way, isolating diversified information and a diversified world (Wen Fengming & Xie Xuefang, 2022).

After being exposed to fragmented and sensory content for a long period of time, adolescents' perception of the real world will gradually become shallow, which is manifested in the fact that they are more inclined to the expression of conclusions and the use of Internet hot stems in their communication with others, and less inclined to the process of arguing about the content of the conversation. Playing "terriers" allows contemporary youth to continuously "break the circle" in social participation and attitude expression, which is like a solid cultural bond that establishes invisible boundaries for different circles, forming a relatively closed aggregate (Zhou Zixing, 2023). During the 2024 Paris Olympics, short video platforms will be flooded with labelled content such as "Champion Quick-Fix Secrets" and "Athlete Income Rankings." For example, the growth stories of young athletes like Quan Hongchan were simplified into inspirational symbols of "rags-to-riches" narratives, while the underlying systemic issues of sports talent development mechanisms and the career development challenges faced by athletes were filtered out. The sports-related perceptions formed by teenagers through the fragmented information they consume are merely a simplified interpretation of complex social structures. As the American writer Karl said, "Every time we learn a new skill or practice a new ability, our brains change to a considerable degree in both structure and function. When culture drives a change in the way we use our brains, that change creates a 'different' brain." As algorithms continue to push this highly simplified content narrative to teens, the cognitive structure of their brains is quietly changing - gradually losing the ability to think deeply about complex social issues, and instead developing a mindset that seeks instant gratification and avidly labels attribution, and affecting the depth and breadth of their understanding of the real world.

2.3 Interest Circle Aggregation and Identity Resonance: Self-reinforcement Mechanism of Online Groups

Short video platforms algorithmically aggregate users with similar behavioral characteristics into circles of interest, which are not only the distribution unit for content consumption, but also the psychological field for users' social interactions, with significant social stickiness and emotional connection functions. In the network environment where socialization is becoming increasingly important, identity is gradually constructed in circles, and platforms use algorithms to build a "user-platform-content" action network, so that teenage users are unconsciously drawn into specific cultural contexts and value orientations. Algorithmic push not only guides teenagers to the group space

with the same interest, but also continuously provides content in line with the group's value tendency, thus constituting a psychological closed loop of "identity resonance - behavioral participation - value assimilation". In this process, users feel psychological satisfaction and identity affirmation when receiving content catering to their interests, and then increase the frequency of use and participate in exchanges, moving closer to the mainstream voice of the circle in exchange for a sense of belonging to the group. In 2023, during the Yao-Chinese Folktales, short video platforms reconstructed content labels around "traditional cultural symbols", deconstructed the originally rich cultural connotations into "monster anthropomorphism"-style budding consumer images, and packaged them as "national trend co-branding". The youth constructed a specific cultural circle under the topic of "Shanghai Fine Arts Film Studio Renaissance" by liking, forwarding, creating, etc. The construction of this cultural identity is actually the result of the platform's algorithmic logic screening and content collage. The construction of this cultural identity is actually the result of the platform's algorithmic logic screening and content collage.

3. The Social Psychological Influence of Platform Algorithmic Pushing on Youth Self-Identity

Driven by algorithms, short video platforms have gradually constructed an immersive, enclosed, and emotional media space where teenagers receive information, establish community relationships, and express themselves. Algorithmic recommendations have shaped their media usage habits and also impacted their social-psychological structure, manifesting as superficial identification triggered by entertainment content, imbalance in identity structure caused by homogenized information, and a tendency towards identity alienation brought about by a sense of disconnection from reality.

3.1 The Entertainment and Superficialization of Identity Content Weaken the Stability of Identity

The traffic orientation and algorithmic logic of short video platforms in content pushing often tend to recommend videos with strong sensory stimulation, compact rhythm, and strange style, and this content production and distribution mechanism encourages youth to shape their self-identity in the audiovisual pleasure of the entertainment turn. At the same time, the value orientation of the youth group for massive information sifting shows obvious dispersion, preferring content with simple form, strong emotion and strong fun, showing the tendency of pan-entertainment and entertainment supremacy (Shi Hongbo, 2019). In the context of online platforms, "being seen" is often more appealing than "being understood". Young people are gradually becoming accustomed to using traffic metrics—such as the number of likes, comments, and shares—as external measures to evaluate themselves.

Short video platforms generally rely on the "labeling" mechanism to categorize and recommend content and users, and adolescents seek role paradigms to quickly identify themselves and others in highly sensory content. Their self-identity is no longer based on real social roles, but rather on "labeled identities" that are widely prevalent on the platforms. Their self-identity is no longer based on real social roles, but on widely popular "labeling" in platforms, such as "avoidant personality", "face blogger", "sociopathic college student", etc. However, overreliance on type labels may limit people's

comprehensive understanding of themselves and others, leading to underestimation or overestimation of individual abilities and potential (Pittenger, 1993). Over time, adolescents' construction of self-identity will tend to become superficial and fragmented, and their self-awareness will gradually be dismembered into individual network labels. The popular MBTI test in recent years provides a simple and effective way for individuals to present and express themselves to others through concise and clear personality type classifications. However, in the context of social platforms, MBTI personality types are consumed in an entertaining and labeled manner: for example, labels such as "INTJ is suitable for being a leader", "INFP is a sensitive and artistic youth", and "ENFP is always enthusiastic but unstable" are frequently spread in short videos and bullet comment sections. These "personality labels" are no longer just a tool for self-understanding, but have become an external, solidified identity template. Once an individual's life experience or psychological state does not match the label, it may trigger identity dislocation and identity crisis, making the originally flexible youth self-perception shallow and rigid.

3.2 Unitary Information Structure Hinders the Construction of Multi-dimensional Identity System

Self-identity is not the accumulation of a single label, but a three-dimensional structure constructed by individuals in multiple contexts such as family, school, and society. Healthy self-cognition should include the gradual exploration and integration of dimensions such as gender, age, group belonging, value beliefs, and career planning. However, under the control of network algorithms, adolescents are immersed in a closed-loop system of "interest-algorithm-push-feedback" for extended periods, limiting their information sources to the world of AI algorithms and obscuring or diluting the diverse identity information in the real world. While continuously catering to the interest preferences of young people, algorithm recommendations selectively amplify their existing favorite content and block information that does not align with their cognitive structure, leading to a tendency towards a single dimension of information they are exposed to. This makes it difficult to support the construction of a diverse identity system, trapping them in an information cocoon. The so-called "information cocoon" refers to the consequence of information isolation caused by the personalization of the communication system. When individuals only focus on content they choose or that pleases them, reducing their exposure to other information, they gradually become imprisoned in a self-woven "cocoon" like a silkworm (Sunstein, 2008). This homogenization of information structure directly affects the integrity of adolescents' self-cognition, as they tend to base their self-cognition more on the virtual roles presented by platforms, neglecting the social responsibilities and role expectations they should bear in the real world. Studies have found that prolonged media use may have adverse effects on the brain development of adolescents, further leading to cognitive dysfunction and potentially depressive emotions (Marciano, 2021). In the online world, adolescents' lack of comprehensive and authentic exploration of questions such as "who am I" and "what kind of person should I become" may lead to role confusion or identity anxiety. While precise push notifications from algorithms facilitate people's rapid access to information, they also shape individuals' cognitive structures, keeping people

entrenched in their respective information cocoon and gradually being "domesticated" by the algorithms (Zhang Aijun, Wang Shouhang, 2020).

3.3 Media Identity Replaces Real Identity, Weakening the Sense of Connection with the Real Society

In the macro context where online media is increasingly becoming the entry point for social cognition, the virtual spaces created by short video platforms are gradually replacing the interactive fields in real society. Short video platforms such as Tiktok and Bilibili not only serve as a source of leisure and entertainment but also possess social interaction attributes. Users can establish connections with video publishers through likes, comments, private messages, and other means, while video publishers can engage in communication activities through replies and other methods (Kong Yiran, 2023). Teenagers build social relationships and express opinions on online platforms, gradually identifying with online media as their primary source of identity. The "account roles" and "online identities" on the platforms often have a stronger presence than roles such as "student", "child", "class cadre", etc. in real life, and are more likely to receive immediate feedback and psychological satisfaction. However, this reinforcement of online media identity also invisibly weakens teenagers' sense of connection to real-life social relationships. They may gradually alienate themselves from family communication, avoid tasks assigned by school teachers, downplay social rules, leading to a hollowing out of social identity, a gradual weakening of collective responsibility, and a gradual degradation of social adaptability to the two-dimensional screens in their hands. This reduces their motivation to participate in the real world, leaving them lacking a stable psychological support structure when facing real-life conflicts and challenges. In this context, young people's self-identity gradually shifts towards expression dominated by platform logic. The popular expression styles, interaction rules, and even language styles of the platforms deeply intervene in the cognitive construction process of young people, making their "self" more constituted by platform design rather than personal learning and experience. This "self-construction" through external influence weakens individuals' independence and critical thinking.

4. Paths of Guidance and Social Coping Strategies

The impact of short video platform algorithmic pushing on youth self-identity construction is not only a technical problem, but also a social psychological problem and a cultural governance problem, which urgently requires the intervention of guidance mechanisms and systematic intervention. Currently, algorithmic pushing has been deeply embedded in the information contact and psychological growth process of young people, and it is necessary to optimize the content ecology, improve media literacy and strengthen the responsibility of the platform to alleviate the identity bias and information cocoon brought about by algorithmic pushing, and rebuild a diversified, healthy and stable self-identity system for young people.

4.1 Strengthening Media Awareness Education for Young People, and Improving Self-identity Self-construction Ability

Faced with the highly visualized, emotionalized, and labeled information structure of short video

platforms, adolescents are in urgent need of basic media literacy and critical reflective thinking. At present, many adolescents lack a fundamental understanding of algorithmic recommendation mechanisms and find it difficult to identify the selective information filtering, interest preference reinforcement, and feedback loop mechanisms behind personalized recommendations. As a result, they may unknowingly fall into identity paths shaped by technological logic and gradually form an externally constructed "othered self". Therefore, it is necessary to systematically incorporate educational content such as "algorithm recognition ability" and "media reflexivity" into school and family education. Schools should embed basic knowledge of the psychological mechanisms of media use and the social effects of algorithmic influence into mental health education, ideological and political education, and information technology courses, helping students understand questions such as "why am I being shown this content" and "why is the platform recommending these videos", so as to foster their understanding of the commercial logic, selection mechanisms, and structural biases behind algorithms. Meanwhile, in the teaching process, teachers should encourage students to discuss the influence of algorithmic recommendation on daily lifestyles, emotional experiences, and even self-perception, guiding young people to develop pluralistic cognitive perspectives and avoid constructing their self-identity based on "platform feedback" and "online labels". As the earliest and most enduring environment in the adolescent socialization process, the family should also enhance the media literacy of parents and guide adolescents to establish a cognitive coordinate of the real self in daily life, helping them break away from psychological dependence on the "persona self" shaped by platforms. Although many parents have limited understanding of the technical principles of online algorithmic mechanisms, they can still play a positive guiding role in daily life. Rather than instilling specific technical knowledge, parents should focus more on how to convey positive values in daily communication, guide adolescents to view online content rationally, and help them establish clear value judgment capabilities. Through open communication and necessary guidance, parents can encourage adolescents to express their views on short video content, guide them to identify the value orientation of information, and enhance their vigilance and resistance to false, vulgar, and extreme content online. At the same time, the family should play a stabilizing role in the management of adolescents' use of online platforms, helping them strike a balance between the virtual world and real life, reduce their psychological dependence on "platform personas," and enhance their understanding and affirmation of the real self.

4.2 Optimize the Content Supply of Mainstream Short Videos to Guide the Direction of Identity Construction

Video content serves as the foundation for algorithmic functioning, and the content that adolescents identify with largely depends on the material ecology pushed by platforms; the ecological structure of recommended content largely determines the sources from which adolescents derive their self-identification. At present, short video platforms contain an excessive amount of pan-entertainment and fragmented content, while content that reflects a sense of social responsibility and value-oriented

guidance is relatively scarce, failing to meet adolescents' psychological needs for a comprehensive understanding of the world and the construction of a pluralistic self-identity.In August 2023, the Cyberspace Administration of China issued the Guidelines for the Construction of Minor Mode in Mobile Internet (Draft for Comments), which clearly stated that the current "Youth Mode" will be comprehensively upgraded to a "Minor Mode" and emphasized that the construction of Minor Mode should achieve age-based content management to create a safe and healthy online environment for minors. Mainstream media and educational institutions can adopt youth-oriented, life-oriented, and narrative-based creative techniques to produce positive content that aligns with adolescents' linguistic styles and aesthetic preferences, embedding positive identity elements such as national identity, social responsibility, and the value of labor into the context of online communication to avoid rigid and didactic expression. For example, short videos in the form of micro-documentaries, dialogue interviews, or dramatized storytelling can be produced around real young strivers, grassroots workers, and exemplary figures of the new era, integrating positive elements such as national identity, social responsibility, and the spirit of labor, thereby enabling adolescents to project themselves into the roles while watching and construct their own identities. In addition, short video platforms should leverage their advantages as communication channels to support high-quality creators and content projects, thereby enhancing the dissemination and influence of mainstream value-oriented content. Within algorithmic recommendation mechanisms, the weight of positive content should be appropriately increased, and methods such as "hot list prioritization" and "immersive recommendation" should be used to expand its reach, breaking the long-standing dilemma in which positive content "talks to itself" or remains "buried and unseen". At the same time, excellent content creators should be encouraged to engage in cross-community collaboration and cross-media interaction, co-creating with educational experts, psychologists, and public welfare organizations to improve the professionalism and appeal of the content, guiding adolescents to expand the boundaries of their understanding of the real world and to pay attention to diverse social roles and the recognition of responsibility.

4.3 Strengthening Platform Content Ecological Governance to Alleviate the Technical Risk of Identity Imbalance

At present, the recommendation logic of short video platforms generally centers on user stickiness and commercial traffic, making vulgar, extreme, and heavily labeled content more likely to receive higher recommendation weights. Content types that can quickly attract attention, stimulate emotional responses, and increase interaction frequency are more easily pushed to users, thereby invisibly increasing the risk of adolescents being exposed to harmful information. Among adolescents, whose value systems are still in the process of formation, such content can easily lead to distortions in the path of self-construction and imbalances in psychological development. To improve the online information environment at its root, it is necessary to promote the adjustment of algorithmic weighting systems and introduce mechanisms for regulating positive values. Online platforms should establish push logic rules suitable for minors, limit the distribution frequency of vulgar and sensational content within the "youth

mode", and carry out refined management of the types, frequencies, and themes of information distribution. They should increase the proportion of content in fields such as quality education, social practice, and scientific and technological innovation, thus expanding the possibility for adolescents to access positive, authentic, and diverse social information. At the same time, platforms should embed value-oriented judgment models and ethical weighting mechanisms into algorithmic systems, and on the basis of maintaining technical efficiency, strengthen human intervention and enhance the manual review of video and graphic content. Through a "human-machine collaboration" approach, platforms should reinforce value assessment of multimodal content such as videos, graphics, and bullet comments, achieving precise regulation of "what to push", "how to push", and "to what extent to push" for adolescent audiences. During the dissemination of key content nodes and popular social topics, the proportion of human intervention should be increased, and a risk assessment system for youth-targeted content should be established to prevent platforms from falling into the dual risks of "content freedom out of control" and "cognitive imbalance among adolescents" under the high-speed operation of algorithms. In addition, platform governance should not rely solely on internal self-regulation mechanisms but also needs to introduce external supervision and regulatory constraints at the institutional level. Policy regulation should be used to guide platforms in fulfilling their social responsibilities, requiring them to regularly disclose the content exposure structure and behavioral changes of adolescent users, clarify their responsibilities regarding algorithm transparency, content review procedures, and user behavior data reporting, and accept public oversight to prevent the invisible manipulation of algorithmic "black boxes".

5. Conclusion

In the process by which digital technology reshapes social relationships and modes of interaction, algorithmic recommendation functions not only as a mechanism of information distribution but also as a cultural force that influences individuals' cognitive structures, value identification, and social interactions. From the echo chambers of "interest-based circles" to the self-categorization of "personality labels", algorithms are quietly constructing a new structure of meaning between the individual and society, within which adolescents must constantly adjust the sources of their sense of self and the coordinates of their identification. When adolescents are immersed in an algorithmically constructed information space for extended periods, their understanding of "who I am" is often transformed into "who the platform defines me as" or "who I am under data labels". In this sense, the algorithm is not merely a digital tool, but a cultural force and social symbol; its intervention in everyday online interactions has altered the way people construct identity and reshaped the boundaries of cognitive possibilities. Therefore, we must not reduce the crisis of youth identity construction to a technical issue of "platform manipulation", but rather situate it within a deeper socio-cultural context for reflection: How can reflexivity of identity be maintained in an era of deep technological embeddedness? How can young people be guided to move from a labeled "self-definition" toward an

open-ended "self-exploration"?

In order to respond to this thorny proposition, it is necessary to strengthen the cultivation of "algorithmic literacy" at the educational level. When algorithms and intelligent machines are inescapable and we can only coexist with them, algorithmic literacy is to cultivate people's ability to coexist with algorithms, and its two basic orientations are the cultivation of mindset and the education of risk required by the algorithmic society (Peng Lan, 2021). Of course, online platforms and systems also need to join hands to build a more inclusive, rational, and open information ecosystem, inhibit traffic-oriented labeling marketing and the dissemination of extremist ideas, and return complexity and plurality to the online information structure. Young people should be encouraged to break free from the algorithmic "interest puzzle", face up to the diversity and plasticity of their own selves, and explore the meaning of their lives in open social relationships, rather than searching for a definitive belonging in the feedback of online platforms. While pursuing the life issue of "who am I", contemporary youth need to think about the growth proposition of "what kind of person am I going to be". Only by maintaining critical thinking and reflective ability in the age of algorithms can new-age youth break free from the cognitive shackles of "digital objects" and become value-conscious "digital citizens".

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