Evolving Care: Changes in Chinese Public Awareness and Attitudes Toward Persons with Disabilities Since the Reform and Opening-up

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Abstract

Caring for people with disabilities constitutes a crucial indicator of social civilization and progress. Since the reform and opening up, China has experienced rapid economic development and profound transformation of its social landscape. Has Chinese society' s care for people with disabilities evolved accordingly? Through a series of multi-perspective studies, we provide the first systematic investigation of changes in Chinese people' s care, concern, and attitudes toward people with disabilities. Study 1 analyzed temporal trends in word frequency related to people with disabilities within the Google Books and People' s Daily corpora. Study 2 had participants aged 55 and above evaluate Chinese people' s attitudes toward people with disabilities around 1980, 2000, and 2020 based on their personal perceptions. Study 3 had participants under 25 evaluate the attitudes of grandparents' , parents' , and children' s generations toward people with disabilities from their personal perspectives. The results demonstrate: Over the past decades, word frequency related to people with disabilities has increased significantly, indicating noticeably heightened public concern; Chinese people' s overall attitudes and attitudes across all dimensions have improved, with substantial progress in inclusion and discrimination dimensions, while gain and expectation dimensions also improved albeit more gradually; the younger generation exhibits more positive attitudes, with attitudinal improvements in gain and expectation dimensions also accelerating among youth. These findings consistently indicate that care for people with disabilities in China is steadily increasing. This research not only expands our understanding of psychological and behavioral changes among Chinese people amid profound social transformations, but also provides insights for further enhancing public care for people with disabilities and promoting sustained social progress.

Full Text

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Response:

Through multi-perspective serial studies, we reveal for the first time the changing trends in Chinese people's concern and attitudes toward persons with disabilities since the reform and opening-up, providing insights for further enhancing care and promoting sustained social progress.

This research expands understanding of the complexity of attitudinal change, the possibility of accelerated transformation, and psychological and behavioral changes among Chinese people under profound social upheaval.

Findings regarding the long-term nature of attitudinal change in the gains and expectations dimensions, generational differences, and the importance of expanding development opportunities and achievement possibilities for positive attitude formation reveal key points for attitude gaps and improvement, offering directions for targeted advocacy and intervention.

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Response: No. The data in this study are being used for the first time and have not been employed in any previously published or submitted articles.

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Response: Study 2 used a retrospective comparison questionnaire, and Study 3 used an intergenerational comparison questionnaire. Both studies conducted reliability analysis ($\alpha > 0.8$, indicating good measurement reliability), validity analysis (r > 0.4, indicating good content validity), and common method bias tests using Harman' s single-factor test (total variance explained was below the critical value of 40%, indicating no serious common method bias).

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Response: Yes. All three sub-studies reported, analyzed, and interpreted effect sizes. Study 1 reported β, t, and R^2 from regression analysis of disability-related word frequency on year. Studies 2 and 3 reported Cohen' s d and ^{2}p (partial eta-squared).

5. Please state the planned and actual sample sizes. If they differ, explain why. Previous psychological research has suffered from low statistical power due to insufficient sample sizes. We recommend explaining your sample size determination in the Methods section, using justified effect sizes and desired power, and reporting the software or program used. See https://osf.io/5awp4/ for guidance.

Response: We used G*Power software for a priori sample size estimation. For repeated-measures ANOVA, assuming a medium effect size (f = 0.25) and 90% statistical power, the minimum required sample size was calculated.

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Response: Yes, this paper complies with this requirement.

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Response: Study 1 analyzed word frequency of disability-related terms from Google Books and People' s Daily corpora. Years with zero frequency were recorded as 0, indicating minimal attention. Studies 2 and 3 collected data via online questionnaires. Incomplete questionnaires or those failing logic checks (e.g., identical responses across all 16 attitude scale items) were flagged as invalid by the platform and excluded from the sample. The final valid sample was 119 for Study 2 and 212 for Study 3. There was no missing data, and no scale items were deleted.

8. Are unpublished experimental materials, scales, or questionnaires attached at the end of the file for review? If not, explain why. If published, are you willing to share these materials with other researchers?

Response: The disability-related vocabulary list and questionnaires (including demographic information, contact with persons with disabilities and media exposure, and disability attitude scale) are attached in the appendices. The authors are willing to share these materials with other researchers. The "Disability Attitude Scale" is a publicly available instrument; please cite the original source when using it.

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Response: This study did not involve laboratory experiments. It analyzed data from two natural language corpora (Google Books and People' s Daily) and two types of online anonymous questionnaires (retrospective and intergenerational).

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Response: This study did not involve laboratory experiments. It only used publicly available natural language corpora (Google Books and People' s Daily) and online anonymous questionnaires. Participants read and agreed to the online questionnaire service agreement and privacy policy during platform registration. The questionnaire introduction explained the study, and participants completed it anonymously with informed consent. The content was not sensitive and did not require ethics committee approval.

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Response: Yes. We have written the English abstract according to the guidelines. To ensure accuracy, the English title and abstract have been reviewed and edited by English-proficient professionals.

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Response: The first author is a student, and the supervisor is the corresponding author. The supervisor (Cai Huajian, hjcai@ou.edu) has sent an email to the editorial office confirming that this research was completed jointly, and that the supervisor has read, guided revisions, and carefully reviewed the manuscript.

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Care Advances with the Times: Changes in Chinese People' s Social Concern and Attitudes towards Persons with Disabilities since the Reform and Opening-Up

Care for persons with disabilities is an important manifestation of social civilization and progress. Since the reform and opening-up policy, China has experienced rapid economic development and remarkable social transformations. Has the level of care for persons with disabilities in China kept pace with these changes? To address this question, we conducted a series of studies from various perspectives to systematically explore the changes in Chinese people' s care, which is synonymous with social concern and attitudes, towards persons with disabilities.

Study 1 utilized the methodology of natural language processing (NLP) to analyze the temporal trends in the frequency of disability-related terms in both Google Books Ngram and People' s Daily corpora. Study 2 adopted a retrospective approach, soliciting assessments from participants aged 55 and above regarding Chinese societal attitudes towards persons with disabilities around 1980, 2000, and 2020, based on their subjective perceptions. Study 3 employed

an intergenerational comparison method, where participants under the age of 25 assessed the attitudes of their grandparents, parents, and peers towards persons with disabilities based on their subjective perceptions.

In summary, the findings from these three studies consistently indicate a significant increase in Chinese people' s social concern for persons with disabilities over the past decades. There have been significant improvements in overall attitude and various dimensions of attitude, with notable progress observed in the dimensions of inclusivity and discrimination. However, improvements in the dimensions of gains and expectations have been relatively slower. It is particularly noteworthy that the younger generation exhibits a significantly more positive attitude towards persons with disabilities, which correlates with pronounced improvements in the dimensions of gains and expectations. These findings collectively underscore the fact that Chinese people' s care for persons with disabilities has advanced with the changing times.

This research not only deepens our understanding of the psychological and behavioral changes among Chinese people during significant social transformations, but also offers insights into how to enhance public care for persons with disabilities and promote sustainable social progress.

Keywords: persons with disabilities, social concern, social attitude, social change, social integration

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Persons with disabilities are equal members of the human family, and caring for them reflects social civilization and progress (国务院新闻办, 2019). According to statistics, persons with disabilities account for approximately 15% of the global population, making them the world' s largest special group—a proportion that continues to grow with population aging and medical advances (WHO & IBRD, 2011). Disability is not merely a physiological phenomenon but also a social construction, as individual impairments largely stem from society' s failure to provide appropriate conditions such as barrier-free environments and services, reasonable accommodation, positive and caring attitudes, and an inclusive and accepting social culture (DPI, 1982). To promote the physical and mental health, personal development, and social integration of persons with disabilities, the United Nations adopted the *Convention on the Rights of Persons with Disabilities* in 2006 (United Nations, 2006). As the most widely ratified comprehensive human rights convention in history, its promotion and implementation have significantly advanced care for persons with disabilities worldwide.

China has a long cultural tradition of caring for persons with disabilities. Confucian ideals of universal care for the vulnerable, including those with disabilities, benevolent governance that supports the weak, and Mohist concepts of "universal love" to resolve social conflicts all reflect state care for persons with disabilities (桂琰, 2012). Since the founding of the People' s Republic, respecting and protecting the rights and dignity of persons with disabilities, ensuring their equal status, equal opportunities, and social participation have become

essential requirements for the Communist Party of China to fulfill its purpose of serving the people and promote socialist construction (国务院新闻办, 2019). China has approximately 85 million persons with disabilities, affecting 70.5 million households and 260 million people—a vast number with extensive impact (中国残疾人联合会, 2010). The Chinese government emphasizes that "in building a moderately prosperous society in all respects, no one with disabilities should be left behind," explicitly incorporating disability initiatives into economic and social development plans, promoting the comprehensive development of persons with disabilities into national human rights action plans, calling on the whole society to show special concern, attention, and care for persons with disabilities and their families, promoting their rights protection and social integration, and enabling them to become participants, contributors, and beneficiaries of social development (中国残疾人联合会, 2019).

From a psychological perspective, social care is primarily manifested as special attention to persons with disabilities, positive social attitudes, and corresponding prosocial behaviors. Previous research indicates that due to the interaction between physical impairments and social barriers, persons with disabilities face numerous difficulties in personal development and social participation, while their families bear heavy economic and psychological burdens. However, research also shows that social attention and attitudes significantly impact the mental health and social integration of persons with disabilities. Positive attention and attitudes help enhance their self-esteem, sense of self-worth, mental health, and life satisfaction, whereas stigmatizing stereotypes and negative attitudes exacerbate emotional distress for persons with disabilities and their relatives, leading to social problems such as depression, suicide, abandonment, domestic violence, bullying, discrimination, opportunity deprivation, and social isolation. Undoubtedly, in-depth research on attention and attitudes toward persons with disabilities is significant, as it concerns not only the mental health, development opportunities, quality of life, and dignity of persons with disabilities and their families, but also provides strategic references for promoting inclusive development, preventing and resolving social conflicts, building a fair and harmonious society, and achieving common prosperity.

In this study, we focus on exploring attention and attitudes toward persons with disabilities, specifically examining how Chinese people' s social concern and attitudes have changed since the reform and opening-up. We know that since this policy began, China' s rapid economic development and changing social landscape have profoundly transformed many aspects of Chinese psychology and behavior (蔡华俭等, 2020; 黄梓航等, 2021). A small number of literature-based, policy analysis, and media discourse studies suggest that public concern and attitudes toward persons with disabilities have also changed, mainly reflected in shifts in terminology (张万洪, 丁鹏, 2018), cognitive models (庞文, 2021; 赵森, 易红郡, 2021), and communication topics (程征, 周燕群, 2023). However, systematic empirical research presenting these changing trends and their details is still lacking. Therefore, this study will, for the first time, explore changes in Chinese people' s social concern and attitudes toward persons with disabil-

ities through multi-perspective serial studies. We will examine not only the basic trends in concern and attitudes but also delve into the changing trends and differences across specific attitudinal dimensions. These studies will help deepen our understanding of attention and attitudes toward persons with disabilities, particularly their evolution, and provide references for future practices to enhance care, promote mental health and social integration, and ultimately advance social civilization and progress.

1.1 Persons with Disabilities and Models of Disability

Persons with disabilities (also referred to as persons with impairments) are individuals with injuries or limitations in physical, sensory, intellectual, mental, or social functioning, such as mobility difficulties, blindness, deafness, intellectual and developmental disabilities, and social barriers (WHO, 2001; United Nations, 2006). Persons with disabilities constitute a dynamic group, including those with congenital conditions (e.g., autism spectrum disorder, Down syndrome) and those with acquired limitations due to illness (e.g., elderly with dementia) or accidents (e.g., wheelchair users with spinal cord injuries from traffic accidents). It includes not only those with traditional physical impairments (e.g., mobility, visual, hearing) but also those with cognitive, psychological, and social functional limitations (e.g., individuals with depression or PTSD from adverse experiences). The interaction between these diverse individual-level impairments and various environmental barriers (e.g., stigmatizing attitudes, inaccessible public facilities, limited opportunities and support) hinders the equal, full, and effective participation of persons with disabilities in society (WHO & World Bank, 2011).

The formation and manifestation of disability are influenced by multiple factors including environmental facilities, social culture, personal experiences, and media coverage. Public cognition and attitudes toward disability and persons with disabilities vary significantly across different social and cultural contexts. Models of disability are paradigms through which people understand disability and view persons with disabilities, subtly influencing related action strategies (庞文, 2021). Previous research indicates that mainstream disability models in various countries are closely related to their level of social development. Four common models exist: (1) the charity model, which views persons with disabilities as poor, incompetent, and weak groups needing pity and sympathy; (2) the medical model, which treats disability as personal defect or disease, emphasizing rehabilitation, surgery, and prosthetics to reduce or eliminate disability; (3) the social model, which holds that individual impairments stem from society' s failure to provide appropriate conditions, focusing on creating barrier-free environments and reasonable accommodation to support personal development and social participation; and (4) the human rights model, which emphasizes that persons with disabilities should enjoy equal rights, advocating inclusive and preventive measures to unlock their potential and value, promote their development and well-being, and establish a positive interactive state of social

integration (Lawson & Beckett, 2021; 庞文, 2021; 赵森, 易红郡, 2021; Degener & De, 2022). While numerous psychological studies have examined the psychological characteristics, mental health status, and influencing factors of persons with disabilities, as well as societal cognition and attitudes toward them, this study focuses on examining changes in Chinese people' s social concern and attitudes toward persons with disabilities.

1.2 Social Concern for Persons with Disabilities

Social concern refers to the level of interest, attention, and engagement that individuals or groups show toward specific people, events, or issues. Previous research demonstrates that social concern is closely related to social attitudes. Increasing positive social attention toward persons with disabilities helps enhance public understanding, acceptance, and support, creates inclusive development opportunities and environments, and promotes their participation and integration in society (United Nations, 2006; WHO & World Bank, 2011; Luo & Kaul, 2019).

Social concern is primarily manifested in media coverage, public discussion, and social interaction (柳建坤, 陈云松, 2018). Language contains abundant psychological and behavioral information and serves as an informational carrier of social concern. With improved computing power and the construction of large-scale corpora in recent years, increasing research has applied natural language processing (NLP) techniques to analyze natural language and explore various psychological and behavioral patterns embedded within it (黄水清, 王东波, 2019; Berger & Packard, 2022). One important direction involves studying temporal changes in the frequency of specific psychology- and behavior-related vocabulary in natural language to reflect corresponding psychological and behavioral trends (Greenfield, 2013; Li, 2018). The temporal trajectory of disability-related term frequency in published books and newspapers can reflect changing trends in social concern for persons with disabilities. This study will explore changing trends in Chinese people' s social concern for persons with disabilities through word frequency analysis of disability-related terms in Chinese natural language corpora.

1.3 Attitudes toward Persons with Disabilities

Social attitudes significantly impact the mental health and social integration of persons with disabilities. Positive attitudes are significantly correlated with higher levels of self-identity, self-esteem, and life satisfaction, whereas stigmatizing negative attitudes are associated with low self-evaluation, depression, and anxiety. Thus, improving social attitudes is crucial for promoting mental health among persons with disabilities (Paterson et al., 2012; Zhang & Haller, 2013). Positive attitudes can facilitate inclusive policy formulation, service improvement, and barrier-free environment creation, helping persons with disabilities gain more acceptance and reasonable accommodation in communities, schools, and enterprises, expanding educational and employment opportunities, building

good interpersonal relationships, and better participating in and integrating into society. Conversely, negative attitudes can inhibit social participation awareness and opportunities, leading to more social exclusion, discrimination, and bullying, and increasing marginalization (Nowicki & Sandieson, 2002; Burge et al., 2007; Morin et al., 2013). Clearly, social attitudes directly affect the mental health, living environment, and social participation of persons with disabilities. To effectively promote their rights, well-being, and social integration, it is necessary to accurately grasp social attitudes toward them and their changing trends.

Regarding attitude measurement, the most widely used instrument is the World Health Organization Disability Attitude Scale (田琪等, 2010). This scale measures attitudes toward persons with disabilities across four dimensions: inclusivity, discrimination, gains, and expectations. Table 1 lists the specific content and items for each dimension. This study will adopt this scale to explore attitudinal changes, enabling us to examine not only general trends in Chinese people' s attitudes toward persons with disabilities but also changes across these four specific dimensions.

1.4 Disability Research from a Social Change Perspective

To date, disability-related research in China remains primarily cross-sectional, focusing on the psychological characteristics and mental health status of persons with disabilities and their influencing factors, as well as attitudes toward them in specific regions or groups (杨勇, 韩布新, 2017; 李祚山, 齐卉, 2018; 李欣, 刘冯铂, 2018; 贺青霞等, 2021). Research from a social change perspective has focused on changes in Chinese people' s terminology and cognitive models regarding persons with disabilities, as well as changing trends in specific areas such as disability education, employment, care, social policy, and media representation. For example, regarding cognitive model changes, research finds that Chinese people' s cognitive models remain primarily charity- and medical-based, but are gradually evolving toward the social model with increased social civilization, advocacy by social organizations, and inclusive government policies, with this transformation more evident in economically developed first-tier and provincial capital cities (张万洪, 丁鹏, 2018; 庞文, 2021; 赵森, 易红郡, 2021).

Overall, existing research shows that public concern and attitudes toward persons with disabilities are closely related to macro-level social changes (Wang et al., 2021; Charlesworth & Banaji, 2022) and are influenced by factors such as disability cognition models (Lawson & Beckett, 2021; 庞文, 2021), contact with persons with disabilities (杨勇, 韩布新, 2017), and media coverage and public discussion (Degener & De, 2022; 程征, 周燕群, 2023). We therefore infer that since the reform and opening-up, with economic development, social progress, evolution of disability models, and increased media coverage, Chinese people' s social concern and attitudes toward persons with disabilities will have changed positively.

1.5 Overview of the Present Research

This study aims to explore changes in Chinese people' s social concern and attitudes toward persons with disabilities since the reform and opening-up. Psychological research on social change commonly uses three designs: cross-temporal, cross-generational, and cross-regional comparisons, reflecting psychological and behavioral changes through comparisons across different time points, generations, and developmental stages (蔡华俭等, 2023). Each design has advantages and disadvantages, and applying multiple designs with cross-validation enhances result robustness.

To comprehensively and systematically examine these changes, we conducted three studies using different designs to reveal changing trends from multiple dimensions over recent decades. For attitudinal changes, we examined not only overall attitudes but also changes across the four specific dimensions of inclusivity, discrimination, gains, and expectations.

Study 1 used natural language processing to analyze temporal trends in disability-related term frequency in Google Books and *People' s Daily* corpora, reflecting changes in social concern. Study 2 used a cross-temporal comparison through a retrospective questionnaire, asking participants over 55 to assess Chinese attitudes around 1980, 2000, and 2020 based on their perceptions, reflecting perceived attitudinal changes over past decades. Study 3 used a cross-generational comparison through an intergenerational questionnaire, asking participants under 25 to assess attitudes of grandparents, parents, and peers, reflecting perceived attitudinal differences across three generations. Additionally, Studies 2 and 3 collected positive and negative words participants associated with persons with disabilities, using word frequency distributions to reflect differences in attention content and attitudinal polarity between older and younger participants.

Study 1: Changes in Chinese People' s Social Concern for Persons with Disabilities—Word Frequency Analysis Based on Natural Language Corpora

2.1.1 Materials

Disability Vocabulary List. We constructed a "Disability-Related Vocabulary List" by collecting, screening, and organizing relevant literature. To enhance representativeness, we conducted in-depth interviews with disability research experts, service professionals, and persons with disabilities and their family representatives to validate and supplement the list. The final list contains 102 terms including "disabled, disability, impairment, persons with disabilities, blind, deaf, persons with physical disabilities, persons with intellectual disabilities, Disabled Persons' Federation, barrier-free, reasonable accommodation, rehabilitation, special education, inclusive employment, care···" (see Appendix), covering common important vocabulary in disability terminology, life-cycle services, policy sup-

port, and social interaction. Using this list as search keywords for word frequency analysis can substantially represent Chinese people' s social concern for persons with disabilities.

Corpus 1: Google Books. The Google Books corpus contains over 8 million books published since the 16th century, covering eight languages including Chinese and English, making it the world's largest electronic book corpus (Michel et al., 2011), widely used in quantitative analyses of language and cultural change (Zeng & Greenfield, 2015; Jackson et al., 2019). Study 1 used the Chinese corpus from Google Books Ngram Viewer (https://books.google.com/ngrams/), with a time span of 1978-2019.

Corpus 2: People' s Daily. *People' s Daily* is one of China' s most influential and authoritative official media outlets, responsible for publicizing major government decisions, communicating public sentiment, guiding social hotspots, disseminating domestic and international information, and reporting and commenting on major events, comprehensively and objectively documenting China' s social transformation. The *People' s Daily* corpus (http://data.people.com.cn/rmrb/) covers all news texts since the founding of the PRC and is suitable for analyzing Chinese psychological changes against the backdrop of social transformation (黄水清, 王东波, 2019). Study 1 used this corpus with R software for word frequency analysis, with a time span of 1978-2021.

2.1.2 Analytic Strategy

We used Google Books Ngram Viewer to retrieve and download the annual proportion of disability-related terms in the total Chinese book vocabulary from 1978-2019, using the sum of proportions for all terms in the disability vocabulary list to represent social concern. Using R software, we calculated the total word frequency of all disability terms in the *People' s Daily* corpus from 1978-2021 to represent social concern. Additionally, to predict future trends, we applied ARIMA (Autoregressive Integrated Moving Average) models in R to forecast future trajectories based on existing word frequency data from both corpora.

2.2 Results and Discussion

In the Google Books Chinese corpus, the trend of disability-related word frequency is shown in Figure 1 [Figure 1: see original paper]. Since the implementation of reform and opening-up in 1978, disability-related word frequency in Google Books Chinese corpus has shown an overall upward trend. Despite fluctuations in individual years, regression analysis revealed a significant positive correlation between word frequency and year, $\beta = 0.61$, $p < 0.001$, SE = 0.13, 95% CI = [0.35, 0.86]. Peaks occurred in 1991, 1995, 2001, 2009, and 2019. According to ARIMA model predictions, disability-related word frequency in Chinese published books is expected to continue growing over the next 10 years, albeit with fluctuations. Overall, disability-related word frequency has increased

significantly since reform and opening-up and is projected to continue growing, reflecting increased social concern.

Note: The straight line represents the best linear fit; the blue curve and gray/blue shading represent predicted values for 2019-2029 and their 80% and 95% confidence intervals.

In the *People's Daily* corpus, the trend is shown in Figure 2 [Figure 2: see original paper]. Since 1978, disability-related word frequency in *People' s Daily* news texts has also shown an overall upward trend. Despite fluctuations, regression analysis revealed a significant positive correlation, $\beta = 0.69$, $p < 0.001$, SE = 0.11, 95% CI = [0.46, 0.92]. Peaks occurred in 1981, 1988, 1994, 2008, and 2019, with the highest value in 2008. ARIMA predictions indicate that disability-related word frequency will remain high over the next 10 years, though the growth rate may slow after decades of rapid increase. Overall, word frequency has increased significantly and is expected to continue, reflecting increased social concern.

Note: The straight line represents the best linear fit; the blue curve and gray/blue shading represent predicted values for 2021-2031 and their 80% and 95% confidence intervals.

Over the 40+ years since reform and opening-up, both corpora show consistent rapid growth in disability-related word frequency, reflecting that Chinese people' s social concern for persons with disabilities has gradually increased alongside economic growth, social progress, and cultural openness. Peak years align with major historical events in China' s disability rights protection, including the founding of China Disabled Persons' Federation (1988), implementation of the Law on the Protection of Persons with Disabilities (1991), promulgation of Regulations on Education for Persons with Disabilities (1994), and Beijing Paralympic Games (2008).

However, increased word frequency alone cannot indicate whether this concern reflects positive inclusion and acceptance or negative discrimination and rejection—that is, whether attitudes are becoming more positive or negative. To address this, Studies 2 and 3 will examine the emotional polarity of Chinese attitudes toward persons with disabilities and their changing trends, and attempt to analyze potential explanatory factors behind attitudinal changes.

Study 2: Temporal Changes in Chinese Attitudes toward Persons with Disabilities—A Cross-Temporal Comparison Based on Retrospective Data

3.1.1 Participants

Given that no previous research has directly examined temporal changes in Chinese attitudes toward persons with disabilities, making it difficult to determine effect sizes, we anticipated observing a medium-to-small effect size based

on most psychological research (Meyer et al., 2001). Using G*Power 3.1.9.7, sample size estimation for one-way repeated-measures ANOVA (1 group, 3 measurements) indicated that a minimum of 72 participants was needed to achieve 95% statistical power with a medium effect size (f = 0.25, α = 0.05) (Faul et al., 2007). Study 2 surveyed 119 valid participants (70 male, 49 female) from 27 provincial-level regions, with 76.50% from urban areas. Participant age ranged from 55 to 77 years (M = 59.87, SD = 4.33); all were at least 10 years old in 1978 and thus have direct experience and impressions of social changes since reform and opening-up.

3.1.2 Measures and Procedure

Study 2 administered an online questionnaire to participants over 55. After clicking the link, participants completed three sections: demographic information, disability attitude scale, and contact with persons with disabilities and media exposure (see Appendix). After completeness and logic checks, 119 valid questionnaires remained.

Demographic variables included age, gender, birthplace, current residence, urban/rural status, education, and income. Contact with persons with disabilities and media exposure was assessed through four self-developed questions: "Have you previously had contact with persons with disabilities?", "Who do you think belongs to the category of persons with disabilities?", "Have you previously paid attention to disability-related media reports?", and "How do you evaluate the disability-related reports you have seen?" Additionally, two open-ended questions examined attention content, impressions, and evaluations: "Please write 3 negative and 3 positive words that come to mind when you think of persons with disabilities."

The WHO Disability Attitude Scale, recognized for its high reliability, validity, and operability, is widely used to assess public attitudes (田琪等, 2010). The scale measures attitudes across four dimensions—inclusivity, discrimination, gains, and expectations—with 4 items per dimension (16 total; see Table 1). All items use a 5-point scale (1 = strongly disagree to 5 = strongly agree). The inclusivity, discrimination, and expectations dimensions are reverse-scored. Dimension scores are sums of respective items, and the total attitude score is the sum of all items, with higher scores indicating more positive attitudes. Participants recalled attitudes they perceived in different eras, evaluating Chinese attitudes around 1980, 2000, and 2020. For example, the instruction for 1980 was: "Below are some descriptions. Please select the extent to which they match what I understand about Chinese people' s views toward persons with disabilities around 1980." Instructions for 2000 and 2020 were identical except for the time reference. Scale reliability is shown in Table 2 .

3.2 Results and Discussion

Study 2 used repeated-measures ANOVA to analyze perceived attitudes in 1980, 2000, and 2020, examining changing trends since reform and opening-up. Results for overall attitude and four dimensions are reported below, with descriptive statistics in Table 3 .

Overall Attitude. Repeated-measures ANOVA showed significant increases in overall attitudes from 1980 (M = 50.09) to 2000 (M = 52.60) to 2020 (M = 56.11), $\omega = 0.77$, $F(2, 236) = 33.64$, $p < 0.001$, $^2 = 0.22$. Post-hoc comparisons revealed that 2020 scores were significantly higher than 1980, $t(236) = 6.56$, $p < 0.001$, Cohen' s d = 0.63, 95% CI = [3.790, 8.243], and higher than 2000, $t(236) = 5.43$, $p < 0.001$, Cohen' s d = 0.37, 95% CI = [1.940, 5.085]. The 2000 score was also significantly higher than 1980, $t(236) = 4.12$, $p < 0.001$, Cohen' s d = 0.26, 95% CI = [1.027, 3.981]. These results indicate a significant upward trend over 40 years. In terms of effect size, the change from 2000-2020 was greater than from 1980-2000.

Inclusivity. Repeated-measures ANOVA showed significant increases in inclusivity from 1980 to 2000 to 2020, $\omega = 0.86$, $F(2, 236) = 47.05$, $p < 0.001$, $^2 = 0.29$. Post-hoc comparisons revealed that 2020 scores were significantly higher than 1980, $t(236) = 8.13$, $p < 0.001$, Cohen' s d = 0.84, 95% CI = [2.898, 5.169], and higher than 2000, $t(236) = 6.35$, $p < 0.001$, Cohen' s d = 0.52, 95% CI = [0.866, 1.941]. The 2000 score was also significantly higher than 1980, $t(236) = 4.31$, $p < 0.001$, Cohen' s d = 0.32, 95% CI = [0.382, 1.366]. The change from 2000-2020 was greater than from 1980-2000.

Discrimination. Repeated-measures ANOVA showed significant increases in discrimination dimension scores (reverse-scored, so higher scores indicate less discrimination) from 1980 to 2000 to 2020, $\omega = 0.89$, $F(2, 236) = 31.65$, $p < 0.001$, $^2 = 0.21$. Post-hoc comparisons revealed that 2020 scores were significantly higher than 1980, $t(236) = 6.84$, $p < 0.001$, Cohen' s d = 0.75, 95% CI = [1.387, 2.915], and higher than 2000, $t(236) = 4.57$, $p < 0.001$, Cohen' s d = 0.39, 95% CI = [0.532, 1.737]. The 2000 score was also significantly higher than 1980, $t(236) = 4.18$, $p < 0.001$, Cohen' s d = 0.35, 95% CI = [0.426, 1.607]. The improvement from 2000-2020 was greater than from 1980-2000.

Gains. Repeated-measures ANOVA showed an upward trend in the gains dimension from 1980 to 2000 to 2020, $\omega = 0.76$, $F(2, 236) = 8.30$, $p < 0.001$, $^2 = 0.07$. Post-hoc comparisons revealed that 2020 scores were significantly higher than 1980, $t(236) = 3.26$, $p = 0.004$, Cohen' s d = 0.23, 95% CI = [0.228, 1.570], and higher than 2000, $t(236) = 2.50$, $p = 0.042$, Cohen' s d = 0.13, 95% CI = [0.013, 0.962]. The difference between 2000 and 1980 was not significant, $t(236) = 2.30$, $p = 0.069$, Cohen' s d = 0.11, 95% CI = [-0.022, 0.846]. These results indicate a significant upward trend over 40 years, primarily occurring in 2000-2020.

Expectations. Repeated-measures ANOVA showed a slow upward trend in

the expectations dimension from 1980 to 2000 to 2020, $\omega = 0.95$, $F(2, 236) = 4.56$, $p = 0.011$, $^2 = 0.04$. Post-hoc comparisons revealed that 2020 scores were significantly higher than 1980, $t(236) = 2.65$, $p = 0.027$, Cohen' s d = 0.21, 95% CI = [0.058, 1.321], but not significantly different from 2000, $t(236) = 2.23$, $p = 0.083$, Cohen' s d = 0.15, 95% CI = [-0.044, 1.019]. The difference between 2000 and 1980 was also not significant, $t(236) = 0.90$, $p = 1.000$, Cohen' s d = 0.06, 95% CI = [-0.34, 0.744]. These results indicate a significant upward trend over the 40-year period, occurring slowly.

Overall, Study 2 used a retrospective method to compare attitudes in three eras (1980, 2000, and 2020). Results show significant improvements in overall attitudes and across all four dimensions over 40 years, with greater improvement in 2000-2020 than in 1980-2000. Compared to the larger improvements in inclusivity (2.28) and discrimination (2.15)—dimensions more related to consciousness and ideology—the gains (0.90) and expectations (0.69) dimensions showed smaller mean improvements and slower change. This reflects that as times have changed, Chinese people' s inclusivity has significantly increased and discrimination has substantially decreased, while attitudes in the gains and expectations dimensions, though smaller in magnitude, are also gradually improving in the long term.

Why has attitudinal improvement accelerated in recent decades? Related research indicates that China' s economic and social transformation was primarily in preparation and initial stages during 1980-2000, but entered a development and transformation period during 2000-2020, with accelerated urbanization and greater emphasis on social development, making disability social integration an increasingly important marker of a harmonious society (张建平, 沈博, 2018; 文军, 刘雨婷, 2019). Additionally, China' s 2001 WTO entry opened social culture and increased international exchange, elevating Western value influences (郑功成, 2002; 高海燕等, 2022). China' s 2007 signing of the UN Convention promoted policy development in accessibility, education, and employment (Huang, 2016; 赵明霞, 张晓玲, 2018; Cui et al., 2019), fostering civil society advocacy and self-organized disability groups that became important forces for public attitude change (Huang, 2019; Huang & Chen, 2022). The 2008 Beijing Paralympics improved barrier-free facilities, and extensive media promotion of inclusive values and athletes' excellence enhanced public understanding and respect (陈同先等, 2009). The years of these milestone events align with peak years in Study 1' s word frequency analysis, suggesting these major changes contributed to accelerated attitudinal improvement.

However, Study 2 only preliminarily reflects basic trends over the past 40 years. Study 3 will use an intergenerational comparison method to compare perceived attitudes across three generations to replicate Study 2' s findings.

Study 3: Intergenerational Changes in Chinese Attitudes toward Persons with Disabilities–An Intergenerational Comparison Study

4.1.1 Participants

Study 3 surveyed 212 young participants (91 male, 121 female) from 26 provincial-level regions, with 66.04% from urban areas. Age ranged from 18 to 25 years (M = 22.90, SD = 1.69).

4.1.2 Measures and Procedure

An online questionnaire was administered to participants under 25. After clicking the link, participants completed demographic information, disability attitude scale, and contact with persons with disabilities and media exposure sections (see Appendix). After completeness and logic checks, 212 valid questionnaires remained.

Study 3 used the same disability attitude scale and scoring method as Study 2 to measure participants' perceptions of their grandparents' , parents' , and peers' attitudes. Scale reliability is shown in Table 2. Instructions were: "Below are some descriptions. Please select the extent to which they match what I understand about my grandparents' /parents' /peers' views toward persons with disabilities."

4.2 Results and Discussion

Similar to Study 2, we conducted repeated-measures ANOVA and post-hoc comparisons for perceived attitudes across three generations. Results for overall and dimensional attitudes are reported below, with descriptive statistics in Table 3.

Overall Attitude. Repeated-measures ANOVA showed significant increases from grandparents (M = 46.68) to parents (M = 50.27) to peers (M = 55.21), ω = 0.80, F(2, 422) = 74.76, p < 0.001, ^{2} = 0.26. Post-hoc comparisons revealed that peer scores were significantly higher than grandparents, t(422) = 10.14, p < 0.001, Cohen' s d = 0.69, 95% CI = [6.498, 10.559], and higher than parents, t(422) = 7.12, p < 0.001, Cohen' s d = 0.40, 95% CI = [3.269, 6.618]. Parent scores were also significantly higher than grandparents, t(422) = 6.75, p < 0.001, Cohen' s d = 0.29, 95% CI = [2.303, 4.866]. These results indicate a significant upward trend across generations, with greater change from parents to peers than from grandparents to parents.

Inclusivity. Repeated-measures ANOVA showed significant increases across generations, ω = 0.88, F(2, 422) = 44.64, p < 0.001, ^{2} = 0.18. Post-hoc comparisons revealed that peer scores were significantly higher than grandparents, t(422) = 8.37, p < 0.001, Cohen' s d = 0.53, 95% CI = [1.379, 2.498], and higher than parents, t(422) = 5.09, p < 0.001, Cohen' s d = 0.27, 95% CI = [0.526,

1.474]. Parent scores were also significantly higher than grandparents, t(422) = 5.55, p < 0.001, Cohen' s d = 0.26, 95% CI = [0.530, 1.347]. The change from parents to peers was greater than from grandparents to parents.

Discrimination. Repeated-measures ANOVA showed significant improvements (higher scores indicating less discrimination) across generations, ω = 0.86, F(2, 422) = 28.49, p < 0.001, ^{2} = 0.12. Post-hoc comparisons revealed that peer scores were significantly higher than grandparents, t(422) = 6.40, p < 0.001, Cohen' s d = 0.44, 95% CI = [1.06, 2.346], and higher than parents, t(422) = 4.42, p < 0.001, Cohen' s d = 0.24, 95% CI = [0.424, 1.435]. Parent scores were also significantly higher than grandparents, t(422) = 3.97, p < 0.001, Cohen' s d = 0.20, 95% CI = [0.302, 1.245]. The improvement from parents to peers was greater than from grandparents to parents.

Gains. Repeated-measures ANOVA showed significant improvements across generations, ω = 0.88, F(2, 422) = 34.99, p < 0.001, ^{2} = 0.14. Post-hoc comparisons revealed that peer scores were significantly higher than grandparents, t(422) = 7.29, p < 0.001, Cohen' s d = 0.47, 95% CI = [1.215, 2.417], and higher than parents, t(422) = 4.44, p < 0.001, Cohen' s d = 0.25, 95% CI = [0.439, 1.485]. Parent scores were also significantly higher than grandparents, t(422) = 4.74, p < 0.001, Cohen' s d = 0.22, 95% CI = [0.419, 1.289]. The improvement from parents to peers was greater than from grandparents to parents.

Expectations. Repeated-measures ANOVA showed significant improvements across generations, ω = 0.84, F(2, 422) = 74.54, p < 0.001, ^{2} = 0.26. Post-hoc comparisons revealed that peer scores were significantly higher than grandparents, t(422) = 10.20, p < 0.001, Cohen' s d = 0.72, 95% CI = [2.345, 3.796], and higher than parents, t(422) = 8.05, p < 0.001, Cohen' s d = 0.48, 95% CI = [1.437, 2.667]. Parent scores were also significantly higher than grandparents, t(422) = 5.00, p < 0.001, Cohen' s d = 0.24, 95% CI = [0.527, 1.511]. The improvement from parents to peers was greater than from grandparents to parents.

Study 3' s results indicate that, overall, younger generations perceive more positive attitudes toward persons with disabilities than older generations. This finding is consistent with Study 2, jointly demonstrating an increasingly positive trend over recent decades.

However, specific dimensional trends differ partially between Studies 2 and 3. Regarding timing, Study 3 found significant differences between each generation for overall and dimensional attitudes, while Study 2 found significant changes across eras primarily for overall attitude and inclusivity/discrimination dimensions, with gains and expectations changing more slowly and mainly in recent decades. Regarding magnitude, Study 3 found substantial increases across all dimensions from grandparents to peers (inclusivity: 1.94, discrimination: 1.70, gains: 1.81, expectations: 3.07), with expectations showing the greatest improvement. Study 2 found larger improvements in inclusivity (2.28) and discrimination (2.15), but smaller improvements in gains (0.90) and expectations

(0.69). These inconsistencies may stem from methodological factors including different designs, participant heterogeneity, and target group differences. For example, Study 2' s cross-temporal comparison includes both time and cohort effects, while Study 3' s cross-generational comparison includes both cohort and age effects. These differences in effect components partially explain the inconsistencies (Yang & Land, 2013). Future research should explore the reasons behind these differences to better understand the dynamic process of attitudinal change.

General Discussion

Public concern and attitudes toward persons with disabilities are critical, directly affecting their mental health, living environment, and social participation, with far-reaching significance for building a harmonious society and promoting civilization. Western scholars have found through cross-temporal research that public attitudes toward persons with disabilities have gradually improved alongside macroeconomic development and cultural value changes (Charlesworth & Banaji, 2022; Degener & De, 2022). Since reform and opening-up, China' s rapid economic development and changing social landscape have profoundly transformed many aspects of Chinese psychology and behavior (蔡华俭等, 2020). How have Chinese people' s concern and attitudes toward persons with disabilities changed? We addressed this through three studies.

5.1 Main Findings and Explanations

Study 1 applied NLP to analyze temporal trends in disability-related word frequency in Google Books and *People' s Daily* corpora. Results showed significant increases since reform and opening-up, indicating growing social concern that is projected to remain high and continue growing over the next 10 years. Study 2 used a retrospective method with participants over 55 who experienced the full reform period, finding significant improvements in overall attitudes and all four dimensions, with faster change in the last 20 years than the previous 20. Study 3 used an intergenerational comparison with participants under 25, finding that younger generations perceive more positive attitudes, with greater changes from parents to peers than from grandparents to parents.

Overall, the three studies—using natural language analysis, cross-temporal retrospective comparison, and cross-generational comparison—consistently show that Chinese people' s social concern and attitudes toward persons with disabilities have significantly improved since reform and opening-up. These findings reveal a clear trend: care for persons with disabilities has advanced with the times. This improvement manifests in three aspects.

Changing Drivers: Economic and social development have significantly enhanced care for persons with disabilities. Theoretically, this aligns with China' s continuous urbanization. Recent decades have witnessed remarkable, rapid urbanization (刘霞辉, 2021). Urban environments provide more comprehensive

barrier-free facilities and social participation opportunities, and urban residents show higher inclusivity and acceptance—urbanization' s positive impact on disability care is fully expected (Antonak & Livneh, 2000). In reality, care for persons with disabilities aligns with China' s economic growth and harmonious society construction. With internet popularization and digital economy development, new job types like e-commerce, online customer service, food delivery, and livestreaming have created increasing employment opportunities for persons with disabilities. The flexibility of online work avoids commuting difficulties, and technological advances like screen-reading software reduce communication barriers, making persons with disabilities increasingly important human capital. This promotes corporate diversity while providing opportunities for self-realization and social integration, creating mutual benefits for employers and employees (廖娟, 满艳秋, 2022). Furthermore, since reform and opening-up, the Chinese government has emphasized social and cultural construction, proposing concepts like harmonious society and core socialist values, establishing National Disability Day, forming volunteer associations, and advocating care for persons with disabilities and values of equality, participation, and sharing (国务院新闻办, 2019). Under government advocacy, media attention has increased significantly, actively promoting positive images, reporting success stories, and disseminating the social value of disability inclusion, becoming an important force for enhancing public care (程征, 周燕群, 2023). This reflects that urbanization, economic development, and social-cultural construction are important factors promoting enhanced care.

Changing Pace: Cultural change has accelerated attitudinal improvement among young people. Acceleration is evident in timing and magnitude. Regarding timing, Study 2 found greater improvements in overall attitudes and inclusivity, discrimination, and gains dimensions in the last 20 years than the previous 20, with expectations improving slowly over 40 years. Study 3 found greater improvements from parents to peers than grandparents to parents for overall and dimensional attitudes. These findings align with Study 1' s increasing word frequency. Regarding magnitude, Study 2 found that for participants over 55, improvements mainly came from increased inclusivity and decreased discrimination, with smaller gains and expectations improvements. Study 3 found that for participants under 25, changes mainly came from increased expectations and inclusivity, with substantial improvements also in gains and discrimination. Younger participants perceived greater overall improvement, confirming previous findings on age effects (Wang et al., 2021) and revealing dimensional differences. These findings indicate that attitudinal improvement is accelerating with development and generational turnover, similar to Western patterns for persons with disabilities, racial minorities, and sexual minorities, where economic and social development, increased social concern, and more frequent cultural discussions promote accelerated improvement (Fuochi et al., 2020; Charlesworth & Banaji, 2022). Although gains and expectations dimensions change slowly overall, this improvement is particularly prominent among young people, who have higher expectations and more optimism about achievement possibilities. Re-

search shows that compared to older generations raised in collectivist culture, young people are more influenced by individualism, which emphasizes individual potential, autonomy, and achievement, and promotes respect for individual rights and differences, fostering positive attitudes (Westbrook et al., 1993; Triandis, 1995). Additionally, 87.74% of young participants in Study 3 encountered disability-related reports through 民间 media, indicating greater influence from new media like Weibo and short videos, which present diverse possibilities for success and contribute to more positive gains and expectations attitudes (程征, 周燕群, 2023).

Changing Content: Reduction of negative attitudes and formation of positive attitudes occur simultaneously but have different influencing factors. The textual content and frequency distribution of disability-related vocabulary can reflect attitudinal characteristics. Studies 2 and 3 collected positive and negative words participants associated with persons with disabilities. Based on correspondence with the 16 items of the Disability Attitude Scale, we could identify which dimensions these words reflected (Table 4). Analyzing word frequency distributions, we found differences in attitudes across urban/rural residence, generation, and influencing factors. Urban participants showed higher proportions of inclusivity-related words (2.55% higher), indicating stronger inclusivity awareness among urban residents—a result of comprehensive urban-rural differences in economic, social, and cultural development (Eagly & Chaiken, 1993). Young participants showed higher proportions of expectations-related words (7.78% higher) and slightly higher gains-related words (0.17% higher), indicating greater attention to these dimensions, consistent with Study 3. Positive words differed most from negative words in the gains dimension (60.07% difference). The expectations dimension showed high proportions of both positive (25.62%) and negative (37.72%) words, indicating clear polarization. Positive words were highest in gains and expectations dimensions (89.32% combined), while negative words were concentrated in inclusivity and discrimination dimensions (58.65% combined). These findings suggest that urbanization and development improve attitudes, with negative attitude reduction and positive attitude formation occurring simultaneously but influenced by different factors. Negative attitude reduction benefits from urbanization-promoted inclusive, non-discriminatory culture, while positive attitude formation depends on society providing more support and opportunities to enhance possibilities for development and achievement. Although inclusivity and discrimination improvements substantially reduce negative attitudes, sustainable promotion of broader positive attitudes requires gains and expectations improvements. Opportunities for personal development (expectations) and possibilities for achievement (gains) are highly correlated with positive attitude formation.

5.2 Research Significance

Previous Chinese disability research from a social change perspective has focused on terminology evolution, cognitive model changes, and trends in specific areas

like education, employment, care, policy, and media image. This study is the first systematic examination of changes in Chinese people' s social concern and attitudes, with important theoretical and practical significance.

First, it expands understanding of psychological and behavioral changes among Chinese people during profound social transformations. Existing research shows that extensive, deep social change is the most likely source of long-term attitudinal change and a lever for shifting stereotypes, with society-wide impact. Social change triggers changes in social attitudes (Wang et al., 2021), cultural values, self-identity, mental health (蔡华俭等, 2020), cognitive style (Maynard et al., 2015), and social interaction (Xin & Xin, 2017). This study is the first to empirically examine changing trends in Chinese people' s concern and attitudes, exploring both general trends and specific dimensional characteristics, enhancing our understanding of how rapid economic development, urbanization, and cultural value changes have influenced Chinese society and people.

Second, it expands understanding of the complexity of social attitudinal change and possibilities for accelerated transformation. Previous research shows that different attitudinal dimensions may change inconsistently with social change (Hugenberg & Bodenhausen, 2004; Charlesworth & Banaji, 2022). Similarly, we found that different dimensions changed at different speeds, with inclusivity and discrimination improving faster than gains and expectations. Moreover, change was not uniform across eras and generations. The last 20 years showed greater improvement than the previous 20, mainly in inclusivity and discrimination. Young people showed faster improvement across all dimensions, particularly pronounced in gains and expectations. These differential trends and complexities result from multiple factors: accelerated economic and social development, rising individualist cultural values, gradual improvement of disability social policy systems, and increasing media attention. Beyond overall development benefits, factors driving young people' s accelerated improvement contain possibilities for accelerating public attitude change, such as: disseminating values of equal rights, individual differences, and potential to broader age groups; creating more education and employment opportunities to enhance participation and human capital; continuing to leverage the role of disability self-organizations and service agencies; and harnessing positive media influence, especially new media' s advantages in reaching young people, to create inclusive culture. Realizing these possibilities could become opportunities for accelerating attitudinal improvement.

Finally, this study has important practical social significance. By revealing changing trends, era and generational differences, and characteristics of overall and dimensional attitudes, combined with discussions of influencing factors, it provides useful insights for future disability care practices. Specifically, these findings help identify gaps in public attitudes and key points and feasible paths for improvement (WHO, 2011), offering directions for targeted advocacy and intervention, which is crucial for enhancing public care and promoting sustained social progress. Particularly, findings on the long-term, slow change in gains

and expectations dimensions, generational differences, and their key role in positive attitude formation suggest that achieving true social integration requires not only advocating inclusive, non-discriminatory culture but also continuously promoting inclusive education, employment, and community integration to expand opportunities for development and achievement. Through positive media coverage and diverse social contact, making both persons with disabilities and the general public aware of their equal rights, potential, qualities, and diverse development possibilities will enhance gains and expectations attitudes—the necessary path for sustained attitudinal improvement.

5.3 Limitations and Future Directions

This study has limitations. First, the three studies used different designs, each with limitations requiring cautious interpretation (蔡华俭等, 2023). Although we analyzed changes from multiple angles, we did not directly assess attention and attitudes at different time points but inferred them through different research logics. Future research should validate these findings using other methods. Second, although we examined overall and dimensional attitudinal changes, time and resource constraints prevented exploring differences across disability types —an area for future research. Third, this study used Google Books and *People' s Daily* corpora, which represent mainstream values and official rather than 民间 language. Future research could expand to 民间 corpora like Weibo, WeChat, and Zhihu for more comprehensive perspectives (Li, 2018). Finally, although we revealed changing trends and discussed possible explanatory factors, future research should deeply analyze reasons and potential impacts.

Despite limitations, three consistent findings show that Chinese people' s social concern and attitudes toward persons with disabilities have significantly improved since reform and opening-up, reflecting enhanced care that advances with the times. All dimensions improved, with larger gains in inclusivity and discrimination, while gains and expectations dimensions improved slowly overall but are accelerating among young people. Sustained improvement in gains and expectations is crucial for further enhancing public care. Increasing opportunities through inclusive education and employment, creating more contact opportunities, advocating positive media attention, and leveraging new media' s advantages in reaching young people are effective paths for further attitudinal improvement. These findings provide insights for enriching the connotation of disability care, expanding from respect, inclusion, and acceptance to participation, contribution, and sharing, and promoting sustained social progress.

Appendix 1: Disability Vocabulary List

Disability-Related Vocabulary List
按比例就业 (Employment by Quota)
庇护性就业 (Sheltered Employment)

残疾青少年 (Youth with Disabilities)
...
精协 (Mental Health Association)
老年残疾人 (Elderly Persons with Disabilities)
轮椅使用者 (Wheelchair Users)
农村残疾人 (Rural Persons with Disabilities)
...
早筛 (Early Screening)
身心障碍人士 (Persons with Physical and Mental Disabilities)
...
自闭症 (Autism)
视力障碍者 (Persons with Visual Impairments)
唐氏综合征 (Down Syndrome)
唐氏综合症 (Down Syndrome, alternative)
...
(Note: The full list contains 102 terms covering terminology, services, policies, and social interaction)

Appendix 2: Basic Demographic Information (Studies 2 & 3)

1. Your age: *{_}*

2. Your gender: Male Female Other: *{_}*

3. Your birthplace: *{_} Province* {_____} City

4. Your current long-term residence: *{_} Province* {_____} City

5. Do you consider yourself from urban or rural area? Urban Rural

6. Your highest education level:
   No formal education Private school/literacy class
   Primary school Junior high school
   Vocational high school/technical secondary school/skilled worker school
   Regular high school Junior college
   Undergraduate Graduate or above

7. Your annual income:
   Under 50,000 yuan 50,000-100,000 yuan
   100,000-300,000 yuan 300,000-500,000 yuan
   Over 500,000 yuan

8. Your occupation:
   Note: If retired, please select former occupation; if multiple occupations, select the one with longest duration.

Government institution/civil servant/government worker
Professional (e.g., teacher/doctor/lawyer/social worker)
Technical personnel
Manager, administrator, private enterprise owner
Company staff (e.g., clerk/office worker)
Business/service worker (e.g., restaurant staff/driver/salesperson)
Freelancer (e.g., writer/artist/photographer/tour guide)
Worker (e.g., factory worker/construction worker/sanitation worker)
Agricultural/forestry/animal husbandry/fishery worker
Military or police
Unemployed
Other (please specify: *{{{_}}{{}}}*{_})

Appendix 3: Contact with Persons with Disabilities and Media Exposure (Studies 2 & 3)

1. Have you previously had contact with persons with disabilities?
   Never Minimal contact, no deep interaction
   Have friends/neighbors/colleagues/relatives with disabilities, considerable contact
   Have close family members with disabilities, very frequent contact
   I am a person with disabilities

2. Have you previously paid attention to disability-related media reports?
   Never noticed, don' t pay attention
   Seen through mass/self-media/internet channels (WeChat, Weibo, web pages, short videos, variety shows, TV dramas)
   Seen through official channels (newspapers, magazines, news, radio, community bulletin boards)

3. How do you evaluate the disability-related reports you' ve seen?
   Rarely seen, no impression
   Both positive and negative, more negative
   Both positive and negative, roughly equal
   Both positive and negative, more positive
   Mainly positive, rarely negative

4. Who do you think belongs to the category of persons with disabilities? (Multiple choice)
   Persons with visual disabilities Persons with hearing disabilities
   Persons with physical disabilities Persons with intellectual disabilities
   Persons with mental disabilities Persons with speech disabilities
   Persons with multiple disabilities
   Elderly with age-related or illness-related functional decline affecting daily life
   Persons with permanent functional impairment from illness or injury
   Persons with temporary functional impairment from illness or injury

5. Please write 3 positive words that come to mind when you think of persons with disabilities: *{{{_}}{,}} {{{_}}{,}} {_}*
6. Please write 3 negative words that come to mind when you think of persons with disabilities: *{{{_}}{,}} {{{_}}{,}} {_}*

References

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Note: Studies 2 and 3 used identical items except for instructional wording.

Study 2 Instruction:
Below are some descriptions. Please select the extent to which they match what I understand about Chinese people' s views toward persons with disabilities around 2020.

Study 3 Instruction:
Below are some descriptions. Please select the extent to which they match what I understand about my grandparents' (grandparents' generation) views toward persons with disabilities.

Disability Attitude Scale Items (1 = Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, 5 = Strongly Agree):
[The 16 items would be listed here following the same format as in Table 1]

Note: Figure translations are in progress. See original paper for figures.