

Unifying Gender Perspectives: Bridging the Divide with Gender Acknowledgement Theory

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Abstract

In the evolving discourse on gender diversity, the distinction between social recognition and acceptance of transgender and non-binary (TGNB) individuals remains inadequately explored, despite its critical importance for both theoretical understanding and practical application. This paper introduces the Gender Acknowledgement Theory (GAT), a novel theoretical framework designed to bridge the existing gap in understanding gender diversity by advocating for a combined approach that intergrates both biological and psychological aspects to acknowledge gender. Through a comprehensive analysis of societal attitudes towards TGNB individuals in both the United States and China, this study reveals a significant polarization in the U.S. and a neutral to slightly negative perspective in China regarding social recognition and acceptance. However, the introduction of GAT and the "Ta" pronoun demonstrates a potential for improving social recognition and acceptance across diverse cultural contexts. The empirical investigation highlights the broader applicability of GAT, suggesting its role in enhancing understanding, communication, and societal integration of TGNB individuals. The findings contribute to the ongoing debate on gender identity, offering insights into the complexities of gender diversity and proposing a path forward for achieving greater inclusivity and understanding in society.

Keywords

Gender Diversity, Transgender, Non-Binary, Social Recognition, Social Acceptance, Gender Acknowledgement Theory (GAT), "Ta" Pronoun, Societal Attitudes, Cultural Contexts, Inclusivity

Main

In contemporary discourse on gender diversity, a pivotal yet inadequately addressed issue is the lack of precise definitions for the social recognition and acceptance of transgender and non-binary (TGNB) genders. While the literature is rich in discussions surrounding lesbian, gay, bisexual and transgender/transsexual (LGBT) acceptance (Flores, 2019) and nuances of gender recognition (Russell et al., 2018), it often falls short in providing explicit delineation between the social recognition and acceptance of non-binary identities. This conflation or lack of separation between these concepts hinders both scholarly discourse and practical applications in policy and social interactions (Monro, 2005; Whittle, 1996).

This paper seeks to bridge this gap by arguing that social recognition is not only fundamental but indispensable for the comprehensive understanding of gender diversity. The academic definition of gender identity, positioned as a social construct and primarily rooted in self-identification (American Psychological Association), often overlooks the crucial dimension of social recognition. Such oversight is significant, as the lack of social recognition for diverse gender identities can lead to societal alienation and marginalization of non-binary and transgender individuals (Price and Green, 2023; The Trevor Project, 2021).

To address this gap, the paper introduces the Gender Acknowledgment Theory (GAT), conceptualized as an alternative theoretical framework to enhance social recognition of gender diversity. This theory is a response to the critical need for higher social recognition of diverse gender identities, advocating that comprehensive understanding and acceptance of gender diversity extend beyond individual self-identification and require active societal validation and integration (Darwin, 2020; Castle, 2018). GAT aims to contribute to the academic discussion by underscoring the indispensable role of social recognition in understanding gender diversity and

offering a theoretical framework that aligns with the complexities of contemporary gender narratives (Matsuno & Budge, 2017; Taylor et al., 2018).

Literature Review

The current body of research in gender studies has significantly contributed to our understanding of LGBT acceptance and the evolving perceptions of gender identity. Despite these advances, there are notable deficiencies in the scholarly dialogue, especially regarding TGNB identities.

Ambiguity in Definitions

While research by Russell et al. (2018) and The Trevor Project (2021) has enhanced our knowledge of the challenges TGNB individuals face, there's a noticeable lack of clear definitions regarding TGNB social recognition. This absence muddies the understanding of these pivotal concepts, impeding precise academic discussions and practical applications.

The scholarly investigation into gender diversity has also failed to clearly differentiate between social recognition and social acceptance. Extensive studies on LGBT acceptance, like those by Flores (2019), and the effects of acceptance on mental health, as detailed by Price and Green (2023), are present. However, these studies do not directly address the specific importance of social recognition in shaping gender identity. This omission can obscure the distinct struggles and requirements of non-binary people.

The literature has not sufficiently highlighted the necessity of social recognition for gender minority groups. Unlike sexual orientation minorities, gender minorities seek not only acceptance but active social recognition of their gender identities. This recognition is pivotal for social interactions and the development of personal identity.

Evolution of Gender Identity Concepts

Research that views gender as a spectrum, such as the works of Bornstein (1995) and Crenshaw's (1989) discussions on intersectionality, have been crucial in challenging traditional binary perspectives. Despite the increasing recognition of non-binary and genderqueer identities, as explored by Monro (2005) and Matsuno & Budge (2017), there's a lack of in-depth research into the social recognition challenges these groups face. While the existence of these identities is acknowledged, there's a deficit in focused exploration on how the absence of social recognition affects non-binary individuals.

In conclusion, while the existing literature on gender diversity offers a broad understanding of LGBT acceptance and the intricacies of gender recognition, it reveals significant gaps in defining and differentiating social recognition and acceptance for non-binary genders. It also falls short in underlining the essential role of societal recognition for gender minority groups. These gaps underscore the necessity for further research and the development of innovative theoretical frameworks, such as GAT, to address these overlooked dimensions of gender diversity.

Defining Social Recognition and Acceptance

Therefore, in the context of TGNB identities, it is imperative to clearly define and distinguish between the concepts of social acceptance and social recognition, as these play crucial roles in how these identities are perceived and integrated within society.

Social Acceptance

Social acceptance in the context of TGNB individuals refers to a respectful acknowledgment and inclusive attitude towards TGNB identities within society. This encompasses not just a passive tolerance, but an active willingness of individuals and groups to respect and include TGNB people, even when these identities do not align with their personal

beliefs or the traditional binary gender systems that might be influenced by religious, cultural, or political viewpoints.

In practical terms, social acceptance can manifest in various ways, such as in a workplace where colleagues respectfully engage with a TGNB individual without prejudice or bias, irrespective of their personal beliefs. It involves inclusivity in social spaces, like inviting TGNB colleagues to group events, ensuring they feel welcomed and valued.

The key aspect of social acceptance is fostering coexistence and respect for the rights and identities of TGNB individuals. **It's about respecting their right to self-identification and gender expression, even if it diverges from one's own gender perceptions.** Importantly, this form of acceptance can coexist with personal adherence to binary gender beliefs. It's more about extending respect and support to TGNB individuals, recognizing their right to exist and express their gender identity within societies or communities that predominantly adhere to binary gender norms.

Social Recognition

Social recognition for TGNB individuals, on the other hand, implies a deeper intellectual and practical acknowledgment of TGNB identities as valid and legitimate, distinct from the traditional male-female binary. **It encompasses not only the acceptance of the existence of TGNB identities but also the active acknowledgment and validation of their legitimacy.** This includes practical measures like the use of preferred non-binary pronouns and institutional policies that accommodate TGNB individuals, such as allowing them to use gender-neutral bathrooms or choose 'X' as a gender marker on official documents.

In educational settings, for example, social recognition is evident when teachers and administrators use a student's chosen non-binary pronouns and name, thereby validating their identity. A pivotal element of social recognition is the acknowledgment of TGNB gender

identities through actions and language, such as the use of gender-neutral or non-binary pronouns. This recognition transcends mere acceptance and involves an intellectual and practical embrace of the fluidity and legitimacy of gender beyond the binary framework.

Social recognition implies a more profound understanding and validation of TGNB identities. It may involve personal advocacy, policy changes, and societal endorsement, going beyond mere coexistence. It encompasses active efforts to understand, respect, and integrate TGNB identities into the social and linguistic fabric of society.

Understanding the distinction between social acceptance and social recognition is crucial for effectively supporting and respecting TGNB identities. While social acceptance is a necessary step towards inclusion, social recognition involves a deeper level of engagement and validation, essential for the true integration of TGNB individuals into the societal framework.

Table 0 Analysis of Social Acceptance and Social Recognition of TGNB Identities

Aspect	Social Acceptance of TGNB Identities	Social Recognition of TGNB Identities
Conceptual Understanding	Acknowledges and respects TGNB identities without necessarily understanding or embracing the full spectrum of gender diversity.	Actively acknowledges, validates, and recognizes the complexity and legitimacy of gender diversity beyond traditional binary constructs.
Perceptions of Gender Diversity	May not fully accept that gender identity can differ from sex assigned at birth and often adheres to binary gender constructs.	Recognizes and affirms that gender identity can diverge from sex assigned at birth and embraces a non-binary and fluid understanding of gender.
Practical Implications	Utilizes accurate and respectful pronouns when addressing TGNB individuals but may experience discomfort around gender diversity, etc.	Consistently uses accurate and respectful pronouns with ease and demonstrates comfort with all aspects of gender diversity, etc.

Practical Implications	Supports TGNB rights and advocates for the reduction of discrimination, primarily focusing on equality and basic rights, etc.	Extends support to include advocating for more inclusive legal document options, actively promotes systemic changes to accommodate and celebrate gender diversity in all societal facets, etc.
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Evolution of Sex/Gender Definitions

The evolution of sex and gender definitions has undergone significant transformation in academic discourse, marked by a progressive shift from traditional binary models to a more nuanced understanding of gender diversity and identity.

Initially, the study of sex was primarily biological, focusing on the physical differences between males and females. This perspective, as represented in works like Murdock's "Social Structure" (1949), viewed gender roles as extensions of biological sex roles. However, the 1950s and 1960s witnessed a pivotal shift towards examining the social roles of men and women, with scholars like Parsons (1954) in "Essays in Sociological Theory" and Myrdal & Klein in "Women's Two Roles: Home and Work" (1956) exploring the impact of societal structures on gender roles. During this period, a clear distinction was drawn between 'sex' as biological and 'gender' as a social construct, a concept emphasized in Oakley's seminal work "Sex, Gender, and Society" (1972/1985).

The feminist movements of the 1970s and 1980s further re-evaluated gender roles, suggesting that these roles and differences are socially constructed and maintained, as argued by Rubin in "The Traffic in Women: Notes on the Political Economy of Sex" (1975) and Guillaumin (1982, 1985). This period marked a departure from viewing gender as a binary concept to understanding it as a spectrum, influenced by cultural, social, and individual factors,

as noted by Delphy (1980) in "A materialist feminism is possible" and Hurtig & Pichevin (1985, 1986).

The concept of gender performativity, influenced by Derrida's "Of Grammatology" (1976) and later authors like Wittig (1992) in "The Straight Mind and Other Essays," further complicated the traditional understandings of gender. This perspective suggested that gender is an ongoing, dynamic process rather than a fixed state. Recent developments in the field, inspired by intersectional approaches (Crenshaw, 1989), have led to a more nuanced understanding of gender as a multifaceted and fluid construct, intersecting with other social categories such as race, class, and sexuality.

The field of transgender identity and rights, as explored by authors like Butler (1999) and Connell (2010), reflects a significant shift from initial misunderstanding or overlooking of transgender identities to current debates on rights, healthcare, and societal acceptance. This evolution is marked by increasing recognition and acceptance, yet it also underscores the need for comprehensive research and understanding in areas including healthcare, social policies, and the individual experiences of transgender people.

Studies like those by Flores (2015) and Flores et al. (2018) reveal a growing public awareness and acceptance of transgender rights, although challenges remain in terms of social discrimination and health disparities. The rise of transgender-inclusive laws and the increased focus on reducing transphobia and understanding public attitudes towards transgender rights, as evidenced by Broockman & Kalla (2016), reflect a growing advocacy within the broader context of LGBTQ rights.

In summary, the domain of sex and gender studies has undergone a significant transformation, transitioning from an emphasis on biological disparities to a nuanced

comprehension of gender as a multifaceted, socially fabricated, and fluid component of human identity and societal constructs. This progression mirrors a profound alteration in societal and scholarly viewpoints, capturing the legal, social, psychological, and political facets of gender variance. Nonetheless, while academia distinguishes between 'sex' and 'gender' as separate concepts, common real-life discourse often merges these terms, leading to confusion. Furthermore, the delineation between biological sex and gender identity presents tangible challenges in everyday application. More importantly, since gender identity is of social construct, the importance of social recognition cannot be ignored.

The Critical Need for Social Recognition

The critical need for social recognition of gender identity, particularly for TGNB individuals, represents a significant gap in current scholarly discourse and societal understanding. This need is distinctly different from the concept of sexual orientation, where the primary focus is on the acceptance of diverse orientations without necessarily requiring societal validation of a specific identity as the definitions of terms such as 'gay' and 'lesbian' are much less debated.

Gender identity, as defined by the American Psychological Association, is a person's psychological sense of self in relation to their gender. This can include a wide range of identities beyond the traditional male and female binary, such as genderqueer, gender-neutral, agender, gender-fluid, and transgender. The development of gender identity is increasingly recognized as being influenced not only by individual factors but also by societal structures, cultural expectations, and personal interactions.

Key studies in this field, such as the work by Price and Green (2023) in "Transgender Health," emphasize the importance of social acceptance and support for reducing the risk of

suicide attempts among transgender and non-binary youth. This research indicates that acceptance of gender identity from various social groups significantly lowers the risk of suicide attempts. The study by Russell et al. (2018) also underscores the importance of using chosen names and pronouns as part of the social transition process for transgender youth, highlighting the association between these practices and improved mental health.

The Trevor Project's research brief (2021) provides insights into the use of pronouns among nonbinary youth, revealing that correct pronoun use is associated with positive feelings and a sense of gender affirmation. However, nonbinary youth who reported that no one respected their pronouns had significantly higher rates of attempting suicide compared to those whose pronouns were mostly respected.

As research shows that correct address of pronouns and names reduce the attempting suicide rates among TGNB individuals, this suggests the pivotal role of social recognition – active validation of chosen pronouns and names indicates high level of recognition of gender identities.

Thus, these findings underscore a crucial distinction: while sexual orientation requires social acceptance, gender identity necessitates both acceptance and recognition. Sexual orientation, being less tied to social and legal identifiers, does not face the same level of dispute over definitions. In contrast, gender identity, particularly for TGNB individuals, involves a more complex interaction with societal norms, legal systems, and personal interactions.

The need for social recognition of gender identity is not just about ensuring respect and inclusivity; it's also about validating and legitimizing the individual's self-perceived identity in social, legal, and institutional contexts. This includes the use of chosen names and pronouns, recognition in official documents, and affirmation in various social settings. Without this

recognition, individuals face significant challenges in expressing their true identity, which can lead to serious mental health issues and societal exclusion.

In conclusion, while the scholarly understanding of gender identity has evolved significantly, there remains a crucial need for societal recognition of these identities. This recognition is essential for the true integration of TGNB individuals into the societal framework, going beyond mere acceptance to a deeper level of understanding, validation, and support.

Therefore, gender should not only be one's self-identification, but also about the social recognition which they receive.

Challenges in Gender Equality and Understanding

The discourse on gender equality and understanding has significantly advanced within the world of academia. However, a noticeable gap remains between scholarly progress and societal attitudes, especially concerning the broader recognition of TGNB communities. This disparity is underscored by several key challenges:

Issues with the Dual-Track Gender System

The distinction between sex (biological) and gender identity (psychological/social), referred as the dual-track system in this paper, poses considerable challenges. In societal contexts, these academic distinctions often blend, leading to confusion and conflict. In the United States, for instance, there is a stark ideological divide. Conservative views prioritize biological sex (biological determinism), while progressive perspectives focus on gender identity (self-identification). This divide significantly impedes the social recognition of TGNB identities. Study 1 in this paper highlights that US society is almost evenly split between support and opposition, indicating a critical need for enhanced social recognition.

Furthermore, separating sex and gender into distinct terms may be at the root of many controversial debates regarding TGNB identities. As sex and gender are distinct, questions arise

such as what defines a woman: sex or gender? If gender (self-identification) alone determines this, then why do gender-affirming surgeries involve biological changes? And if one identifies as a 12-year-old despite being 30, would they be recognized as a child? These fundamental questions need answers from the academic world. In the author's opinion, while biological sex is based on physical attributes, gender could be a complex interplay of biology, identity, culture, and personal experience. But this assertion needs to be empirically studied or proved. The author may explore this in future research. As for this paper, it aims to unite sex (biological aspects) and gender expression (social/psychological aspects) into a novel gender theory (GAT) to foster understanding and communication between those who adhere to traditional binary genders and those with a modern understanding of gender identities. Indeed, Studies 2 and 3 in this paper show that 65.98% (256) of TGNB individuals and 68.94% (273) of cisgender individuals in mainland China believe that “性别” (xing bie) is determined by both biological and psychological aspects. In Chinese language, xing bie encompasses both sex and gender unless specifically qualified as ‘biological’ or ‘social’. In most instances, xing bie refers to sex, as evidenced by the "Zhejiang Province (China) Residence Registration Management Regulations" (Article 77), which requires gender changes due to medical transition or other reasons to be officially documented with specific documentation proving the completion of sex reassignment surgeries.

Table 1 Xing Bie

Chinese character	性别	生理性别	社会性别
Phonetic transcription (pin yin)	xing bie	sheng li xing bie	she hui xing bie
English translation	sex/gender	biological sex	social gender

Complexities of Non-binary Gender Identities

The spectrum of non-binary gender identities reflects human diversity but also poses significant challenges for societal acceptance and recognition. The general population may find it difficult to understand and remember the vast array of pronouns and identities, which impacts their social recognition.

Table 2 107 Gender Identities

Abinary	Agender	Ambigender	Androgyne	Androgynos
Androgynous	Aporagender	Autigender	Bakla	Bigender
Binary	Bissu	Butch	Calabai	Calalai
Cis	Cisgender	Cis female	Cis male	Cis man
Cis woman	Demi-boy	Demiflux	Demigender	Demi-girl
Demi-guy	Demi-man	Dual gender	Demi-woman	Endosex
Eunuch	Fa'afafine	Female	Female to male	Femme
FTM	Gender bender	Gender diverse	Gender gifted	Genderfluid
Genderflux	Genderfuck	Genderless	Gendervague	Gender nonconforming
Genderqueer	Gender questioning	Gender variant	Graygender	Heterosexual
Hijra	Intergender	Intersex	Kathoey	Male
Male to female	Man	Man of trans experience	Maverique	MTF
Multigender	Muxe	Neither	Neurogender	Neutrois
Non-binary	Non-binary transgender	Omnigender	Other	Pangender
Polygender	Person of transgendered experience	Queer	Sekhet	Straight
Third gender	Trans	Trans female	Trans male	Trans man
Trans person	Trans woman	Transgender	Transgender female	Transgender male
Transgender man	Transgender person	Transgender woman	Transfeminine	Transmasculine
Transsexual	Transsexual female	Transsexual male	Transsexual man	Transsexual person
Transsexual woman	Travesti	Trigender	Tumtum	Two spirit
Vakasalewalewa	Waria	Winkte	Woman	Woman of trans experience

X-gender	Xenogender			
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From Sexual Diversity. Org <https://www.sexualdiversity.org/edu/1111.php>

Table 3 17 Pronouns

Pronoun Set	Subject	Object	Possessive Determiner	Possessive Pronoun	Reflexive
Ce/Cir	Ce	Cir	Cir	Cirs	Cirself
Co	Co	Co	Cos	Cos	Coself
Cy/Cyr	Cy	Cyr	Cyr	Cyrs	Cyrself
Ey/Em	Ey	Em	Eir	Eirs	Emself
He/Him	He	Him	His	His	Himself
Hey/Hem	Hey	Hem	Heir	Heirs	Hemself
Ne/Nem	Ne	Nem	Nir	Nirs	Nemself
Qui/Quem	Qui	Quem	Quis	Quis	Quemself
She/Her	She	Her	Her	Hers	Herself
Sie/Hir	Sie	Hir	Hir	Hirs	Hirself
Tey/Tem	Tey	Tem	Teir	Teirs	Temself
They/Them	They	Them	Their	Theirs	Themself
Xe/Xem	Xe	Xem	Xyr	Xyrs	Xemself
Xie/Hir	Xie	Hir	Hir	Hirs	Hirself
Yo	Yo	Yo	Yos	Yos	Yoself
Ze/Zir	Ze	Zir	Zir	Zirs	Zirself
Ve/Ver	Ve	Ver	Ver	Ver	Verself

From LGBTQ Nation <https://www.lgbtqnation.com/2022/08/incomplete-list-gender-pronouns/>

Disconnection Between Academic and Social Understanding

Despite academic research on gender evolving since the 1950s, there has been a significant delay in translating these insights into broader social consensus. Theories viewing gender as a spectrum and a social construct have not fully penetrated societal consciousness, resulting in ongoing debates and limited acceptance.

It's also important to note that the majority of existing research on gender recognition and acceptance primarily reflects Western contexts. In other regions, such as the Middle East, Asia, and Africa, attitudes toward gender diversity may be considerably more conservative, with lower levels of social recognition. This geographical and cultural variance underscores the need for a more inclusive and globally aware approach to addressing gender diversity challenges. In these areas, deeply ingrained cultural, religious, and social norms may present additional obstacles to the recognition and acceptance of non-binary and transgender identities.

Gender Acknowledgment Theory and Ta pronoun

GAT presents an alternative theoretical framework to the conventional binary and non-binary gender constructs. Central to GAT's philosophy is the objective not to contest or affirm any specific gender ideology but to offer an inclusive approach that fosters a deeper comprehension of gender diversity.

Table 4 Definitions of Gender, Gender Acknowledgement Theory and Sex

Gender	Gender Acknowledgement Theory	Sex
self-identification (psychological/social aspects only)	gender acknowledgement biological sex + gender expressions (both biological and psychological/social)	physical and biological traits (biological only)
e.g. I <i>identify</i> as non- binary.	e.g. I <i>acknowledge</i> my gender as male + ultra feminine.	e.g. I am male <i>assigned at birth</i> .

GAT is specifically designed to aid those who subscribe to traditional binary gender notions, guiding and educating them to acknowledge and appreciate the vast spectrum of gender identities that transcend the conventional male and female categories. It underscores the

significance of recognizing and respecting the diversity of gender expressions and identities, regardless of their conformity to traditional gender norms.

GAT outlines several biological categories, including male, transgender male, intersex, female, and transgender female, acknowledging the biological attributes of individuals. These categories are paired with a wide range of gender expressions from ultra masculine to ultra feminine, including intermediate expressions like mild masculine, mixed, and undefined. This framework allows individuals to express their identities in ways that reflect their unique experiences and perceptions, providing a more detailed and personalized approach to gender identification.

For example, within the GAT framework, a person might identify as 'male + mild masculine' or 'female + mixed,' offering a more customized and diverse representation of gender. This inclusivity is foundational to GAT, aiming to create a platform where all individuals including cisgender people can equitably express their gender identities.

To accommodate this broad spectrum of identities, GAT advocates for the use of non-gendered pronouns, drawing inspiration from the linguistic simplicity of Mandarin Chinese. In Mandarin, 'he,' 'she,' and 'it' are pronounced 'tā,' despite having different written forms, showcasing an effective and non-gendered mode of communication.

Table 5 Third-person Singular Pronouns in Chinese

Chinese character	他	她	它	牠	tā
Phonetic transcription	tā(ta)	tā(ta)	tā(ta)	tā(ta)	tā(ta)

English translation	he	she	it	ta	ta
Description	Predominantly denotes a male, occasionally referring to a person of unspecified gender.	Exclusively refers to female.	Used to indicate animals or objects.	This paper initially introduces "ta" as a universal singular third-person pronoun for all genders in Chinese, a concept not yet empirically tested as it was in the surveys of studies 1 and 2. In those studies, the character "他" was used as a substitute because the character for "ta" had not been created at that time.	The term "ta" represents the pinyin (phonetic transcription) of the preceding four Chinese characters (including the newly created one). Pinyin can be utilized in Chinese communication even when characters are not written. The use of "ta" is not a novel introduction within this paper, as it has already been applied in practical contexts.

*the creator of the 5 Chinese character images: Xiao Lin, the copyright owner: Bryce Petofi Towne The designer of the fourth

Chinese character image: Bryce Petofi Towne

Historically, Mandarin did not distinguish between male, female, or non-human subjects in its third-person pronouns(他). This non-differentiation was altered through the influence of English, leading to the creation of distinct pronouns for 'he' (他) and 'she'(她) in modern written language. However, the original neutral 'tā' (他) remains a general term when gender is unknown or irrelevant, though its usage has predominantly shifted to refer to males in practice. Similarly, the English pronouns 'they/them' serve various purposes but have become closely associated with non-binary individuals when used in the singular form. This practice may limit they/them as non-binary pronouns as singular form rather than a non-gendered pronoun for all. The evolution of language often involves the process where new meanings emerge and can supplant or overshadow old meanings. A prime example of this phenomenon is observed in the semantic evolution of the word "gay." Historically, "gay" denoted being joyful or lighthearted. Over time, its predominant use has shifted to describe homosexual individuals, significantly diminishing its former association with joyfulness. This transformation illustrates the dynamic nature of language, reflecting changes in social, cultural, and linguistic contexts.

While the specific academic literature directly addressing the semantic shift of "gay" from "joyful" to describing homosexuality was not provided, this example aligns with broader linguistic research. Studies in the field of sociolinguistics and historical linguistics, such as those on lexical semantic change, highlight how words can acquire new meanings and lose old ones due to various factors including cultural, societal, and technological changes (Tahmasebi, Borin, & Jatowt, 2018). This process is indicative of the fluidity of language and its ability to adapt to changing societal norms and values.

Inspired by Chinese Mandarin, GAT proposes the English pronouns 'ta,' 'tas,' and 'taself' for universal application, reflecting individuals' experiences and identities without enforcing gender distinctions. Ideally, 'ta' would replace gender-specific pronouns, offering a singular, non-gendered option. However, achieving widespread acceptance of this concept may be challenging. The reality is that language evolves, and new meanings can replace or coexist with old ones, as seen with the word 'gay,' which has largely shifted from meaning 'joyful' to denoting homosexuality.

Table 6 Third-person Singular Pronouns in English and Ta Pronouns

English pronouns	Ta pronouns
he/him	ta
she/her	ta
it/it	ta
his/his	tas
her/hers	tas
its/its	tas
himself	taself
herself	taself
itself	taself

The 'ta' pronoun series is meant to be versatile, adapting to various grammatical roles and offering a linguistically simplified yet respectful and inclusive means for everyone to articulate their identities. Thus, GAT represents a potential path toward greater social acknowledgment of gender minorities, recognizing the complexity and fluidity of gender expressions and experiences. It advocates for a nuanced and inclusive understanding that can bridge divides, enhance social cohesion, and promote equality for all.

Research Focus and Questions

Given the objectives of this research on Gender Acknowledgement Theory (GAT) and the exploration of societal attitudes towards transgender and non-binary (TGNB) individuals in both the United States and China, the following research questions are proposed:

RQ1: How does societal recognition and acceptance of TGNB individuals differ between the United States and China?

This question seeks to understand the cultural and societal nuances influencing the recognition and acceptance of TGNB individuals, as observed through empirical investigation in these two distinct cultural contexts.

RQ2: What impact does the introduction of GAT and the "Ta" pronoun have on societal attitudes towards gender diversity?

The question examines the potential of GAT and the "Ta" pronoun as tools for improving social recognition and acceptance of TGNB individuals across diverse cultural settings.

RQ3: How do the biological and psychological aspects of gender contribute to the social recognition and acceptance of TGNB identities, according to respondents in the study?

This question considers the respondents' views on the interplay between biological and psychological aspects of gender in the context of GAT, evaluating how these dimensions influence societal attitudes towards gender diversity.

RQ4: What are the perceived barriers and limitations of GAT in fully representing the gender identities of TGNB individuals who have not undergone gender-affirming surgery or hormone treatment?

This question explores the limitations of GAT, particularly for TGNB individuals who do not align with its current framework due to their transitional status or decision not to undergo medical treatments, aiming to identify areas for further development of the theory.

RQ5: To what extent does the proposed "Ta" pronoun facilitate communication and understanding between individuals with traditional binary gender views and the TGNB community?

This question investigates the effectiveness of the "Ta" pronoun in bridging understanding and fostering inclusive communication between people with traditional binary gender perspectives and those from the TGNB community.

By framing these questions, the research aims to dissect the complexities of gender diversity recognition and acceptance, using GAT as a focal point for analysis. The questions are designed to align with the paper's methodology, which leverages empirical data from surveys and statistical analysis, and the broader discussion, which considers the implications of GAT within the theoretical framework of gender studies and the practical realm of societal integration.

Methods

Study 1

Study Design

A comprehensive cross-sectional analysis was conducted to investigate societal perspectives on transgender and non-binary individuals' social recognition and acceptance within the United States, focusing on the dynamics of social recognition, social acceptance, and perceptions of discrimination and acceptance. The study utilized data from surveys provided by the Pew Research Center, Public Religion Research Institute (PRRI), and YouGov, spanning 2016 to 2023. These surveys encompassed questions directly related to transgender and non-binary issues, offering a robust dataset for analysis.

Sample Size and Selection

Given the secondary nature of the data analysis, the sample size was predetermined by the surveys conducted by the Pew Research Center, PRRI, and YouGov. These surveys collectively gathered data from a large number of respondents, ensuring a diverse and representative sample of the U.S. population. Participants included in these surveys were U.S. residents from various demographic backgrounds, ensuring the study's national representation and relevance.

Instrumentation

The datasets included items measuring societal attitudes towards transgender and non-binary individuals, focusing on social recognition, social acceptance, and perceptions of discrimination and acceptance. Survey items were varied, including Likert scale responses, binary choices (agree/disagree, yes/no), and multiple-choice questions. These items were designed to capture a wide range of attitudes towards gender identity, restroom access, educational content, legislative support, and societal acceptance.

Data Selection Criteria

The inclusion criteria for survey data were as follows:

1. Surveys must address topics related to transgender or non-binary identities.
2. Questions must pertain to social recognition or social acceptance, as defined by this study.
3. Surveys must originate from the United States to ensure cultural relevance and comparability.
4. The timeframe of 2016 to 2023 was chosen due to the availability of relevant data.
5. Only data from reputable institutions (Pew Research Center, PRRI, YouGov) were considered to ensure reliability.

Study 2

Study Design

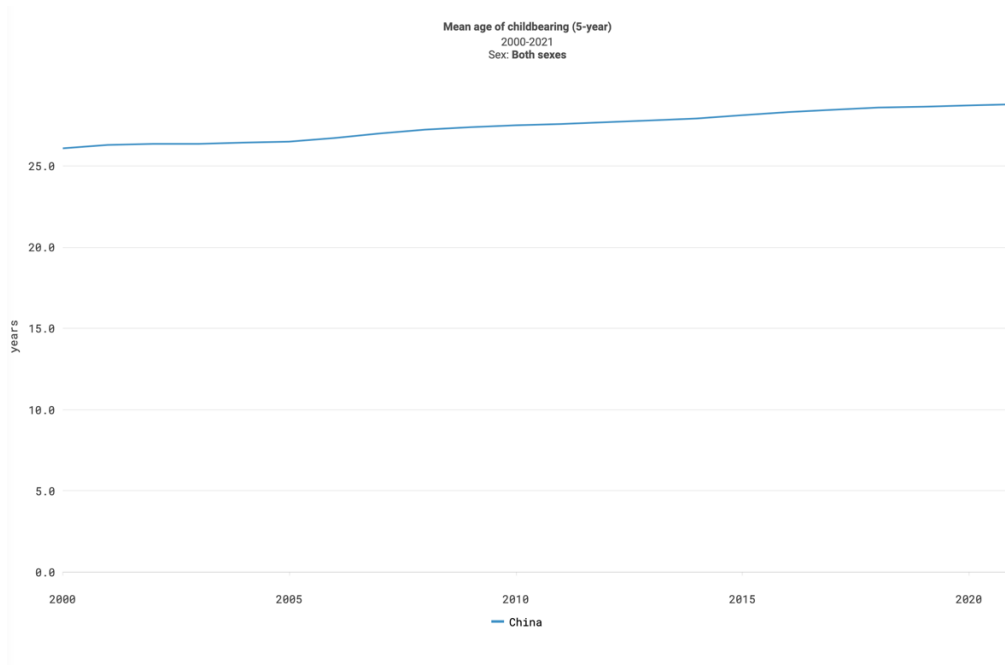
A cross-sectional study was conducted to explore the social acceptance and recognition of non-binary and transgender groups in mainland China, assessing the impact of Gender Acknowledgment Theory (GAT) on enhancing the social recognition of gender diversity. This investigation was primarily conducted through a questionnaire survey designed in this study to measure attitudes towards non-binary and transgender individuals, along with perceptions of GAT.

Sample Size and Selection

The sample size was calculated using the formula $(n=Z^2 \cdot p \cdot (1-p)/E^2)$, with $Z=1.96$ for a 95% confidence level, $p=0.5$ to maximize sample size, and $E=0.05$ for a 5% margin of error, resulting in a required sample size of approximately 385. The study achieved 396 valid responses, surpassing the calculated requirement and ensuring sufficient power for the analysis.

Participants, aged 36-42 and residing in mainland China with at least a college education and not currently enrolled as students, were recruited through stratified sampling. This demographic was selected based on the likelihood of being parents to middle school-aged children, considering the average childbearing age in China from 2011-2013 (27.6-27.8 years) and projecting to 2023, resulting in an approximate age of 39 years.

Line Graph 2 Mean Age of Childbearing of China



Source: the United Nations:

<https://population.un.org/dataportal/data/indicators/18/locations/156/start/2000/end/2021/table/pivotbylocation?df=af6f389b-331c-4db6-bcbe-6a42ed431357>

Participants were required to be cisgender males or females, as this survey aimed to examine the attitudes of the majority demographic towards non-binary and transgender individuals. The focus on transgender and non-binary research will be the subject of Study 3. This demographic selection aligns with the study's emphasis on attitudes towards gender education in a parenting context.

Instrumentation

The survey instrument included 48 items across three sections: demographic information, attitudes towards non-binary and transgender individuals and scenarios, and perceptions of GAT. Responses were gathered on a Likert scale ranging from 1 (strongly disagree/not accepting/uncomfortable) to 7 (strongly agree/accepting/comfortable), designed to assess awareness of social discrimination, beliefs about gender determination, social acceptance, social

recognition, mate selection preferences, and the role of GAT and the "Ta" pronoun in promoting gender diversity.

Data Exclusion Criteria

1. Not within the age range of 36-42 years.
2. Belonging to the student demographic.
3. Not identifying as either biological sex male with gender identity male, or biological sex female with gender identity female.
4. Provided birth dates not aligning with the specified age range of 36-42 years.
5. Submission of illogical birth dates, such as the 13th month of 1982 or February 31st.
6. Surveys invalidated due to timeout, either detected by backend automation or due to the survey page countdown expiring.
7. Failure to select the option indicating careful reading and understanding of conceptual reading questions Q10, Q37, and Q38.
8. Incorrect responses to any trap questions (Q12, Q13, Q21, Q22, Q23, and Q40).
9. Contradictory answers in questions Q2, Q8, and Q33, or Q2, Q8, and Q34.

Validity and Reliability Analysis

The analysis of reliability, utilizing Cronbach's Alpha, revealed a standardized Cronbach's alpha of 0.843 for a subset of items (n=396), indicating a high level of internal consistency among the survey items. Notably, items such as Q14 to Q24 demonstrated corrected item-total correlations (CITC) ranging from 0.478 to 0.693, with the removal of any individual item resulting in negligible variations in Cronbach's Alpha, suggesting each item's significant contribution to the overall reliability of the scale.

A subsequent reliability analysis of another item set, including Q25 to Q32, yielded a slightly higher standardized Cronbach's alpha of 0.866, underscoring the robustness of this

segment in assessing attitudes towards gender identity and inclusion. Items within this section exhibited CITC values between 0.515 and 0.701, reinforcing the consistency and reliability of responses.

A focused evaluation on items related to the Gender Acknowledgment Theory (GAT), specifically Q39 to Q48, showcased an even greater standardized Cronbach's alpha of 0.927. This exceptional level of reliability indicates a cohesive understanding and perception among participants regarding GAT's role in gender diversity acknowledgment.

Validity assessments through exploratory factor analysis (EFA) provided insight into the construct validity of the survey items. The initial factor analysis for items Q14 to Q24 identified a singular factor explaining 52.037% of the variance, with factor loadings ranging from 0.597 to 0.806, suggesting a strong unidimensional construct related to attitudes towards non-binary and transgender individuals.

Further validity analysis on items Q25 to Q32 revealed two distinct factors, explaining a cumulative variance of 68.684%. Factor loadings for these items varied, indicating diverse but related constructs surrounding gender identity acknowledgment and the social integration of non-binary and transgender individuals.

The validity analysis of GAT-related items (Q39 to Q48) showed a single factor explaining 63.260% of the variance, with high factor loadings ranging from 0.658 to 0.799. This demonstrates a unified construct validity regarding perceptions of GAT's effectiveness in promoting gender diversity recognition.

Subgroup analyses on heterosexual cis-male and cis-female participants, as well as non-heterosexual counterparts, provided further granularity. Reliability statistics for these subgroups, with standardized Cronbach's alphas ranging from 0.792 to 0.945, alongside validity analyses

with high factor loadings and significant proportions of variance explained, underscore the nuanced perspectives across different demographic groups concerning gender identity acceptance and the implications of GAT.

In conclusion, the reliability and validity analyses affirm the survey's effectiveness in capturing complex attitudes towards non-binary and transgender identities, as well as the acceptance and understanding of GAT among diverse populations. The high levels of internal consistency and construct validity support the robustness of the findings and underscore the importance of inclusive gender education and policy development.

Table 7a Reliability Statistics for Study 2

Reliability Statistics (Cronbach Alpha)			
Items (n=396)	Corrected Item-Total Correlation(CITC) \square	Cronbach Alpha if Item Deleted	Cronbach α
[Q14] To what extent are you accepting of your child or future child being non-binary/transgender?	0.478	0.838	
[Q15] To what extent do you agree with the statement: "If my friend is non-binary or transgender, it will not negatively affect our friendship."	0.670	0.808	
[Q16] To what extent do you agree with the statement: "If my friend is transgender/non-binary, I would be willing to introduce this friend to my other friends without feeling uncomfortable."	0.693	0.804	
[Q17] To what extent do you agree with the statement: "If I have a child in middle school, I believe their curriculum should include knowledge and content on non-binary and transgender identities."	0.590	0.821	0.841
[Q18] To what extent do you agree with the statement: "The government should implement policies and measures to eliminate discrimination against non-binary and transgender groups."	0.679	0.808	
[Q19] To what extent do you agree with the statement: "Religious organizations should respect and welcome non-binary and transgender groups."	0.585	0.822	
[Q24] To what extent do you agree with the statement: "Governments and public places should provide more gender-neutral restrooms to accommodate non-binary and transgender individuals."	0.493	0.835	

Cronbach α (Standardized): 0.843

Table 7b Reliability Statistics for Study 2

Reliability Statistics (Cronbach Alpha)			
Items (n=396)	Corrected Item-Total Correlation(CITC)	Cronbach Alpha if Item Deleted	Cronbach α
[Q25] To what extent do you agree with the statement: "Identification documents such as ID cards, passports, and driver's licenses should include a third gender option besides male/female."	0.601	0.847	
[Q26] To what extent do you agree with the statement: "If someone asks me to use gender-neutral pronouns like they/them instead of he/she for non-binary individuals, I would accept it without feeling any discomfort."	0.584	0.849	
[Q27] To what extent do you agree with the statement: "Transgender women (male to female) should be allowed to participate in women's sports events or other athletic competitions."	0.515	0.858	
[Q28] To what extent do you agree with the statement: "Non-binary individuals who identify as female should be allowed to participate in women's sports events or other athletic competitions."	0.543	0.854	
[Q29] To what extent do you agree with the statement: "Government and social media platforms should offer non-binary gender options during the account registration process on their official websites, allowing for the use of neutral pronouns like they/them for those who do not identify as male or female."	0.686	0.838	0.863
[Q30] To what extent do you agree with the statement: "If strangers indicate that their gender is neither male nor female, I would recognize their gender identities without feeling discomfort."	0.701	0.836	
[Q31] To what extent do you agree with the statement: "If friends express that their gender is neither male nor female, I would recognize their gender identities without feeling discomfort."	0.692	0.837	
[Q32] To what extent do you agree with the statement: "If close family members, such as parents or children, state that their gender is neither male nor female, I would recognize their gender identities without feeling discomfort."	0.592	0.848	
Cronbach α (Standardized): 0.866			

Table 7c Reliability Statistics for Study 2

Reliability Statistics (Cronbach Alpha)

Items (n=396)	Corrected Item-Total Correlation(CITC)	Cronbach Alpha if Item Deleted	Cronbach α
[Q39] To what extent do you agree with the statement: "I believe the GAT theory helps in eliminating discrimination against non-binary and transgender groups."	0.733	0.917	
[Q41] To what extent do you agree with the statement: "I believe the GAT theory provides an acceptable framework for understanding gender diversity that helps me to better understand it."	0.742	0.917	
[Q42] "As a male in terms of biological sex and gender identity, I am willing to use GAT to acknowledge my gender in the form of male + ultra masculine/masculine/mild masculine...or As a female in terms of biological sex and gender identity, I am willing to use GAT to acknowledge my gender in the form of female + ultra feminine/feminine/mild feminine..."	0.700	0.920	
[Q43] To what extent do you agree with the statement: "I believe the GAT theory effectively promotes social recognition of non-binary/transgender groups."	0.799	0.913	
[Q44] To what extent do you agree with the statement: "I consider the GAT an important step in the development of gender equality, including for non-binary and transgender groups."	0.777	0.915	0.926
[Q45] To what extent do you agree with the statement: "The gender-neutral pronoun 'Ta' provided by GAT is convenient and appropriate. I am willing to use 'Ta' instead of 'he/she' to refer to others, including non-binary/transgender individuals."	0.658	0.922	
[Q46] To what extent do you agree with the statement: "I prefer to use GAT's framework of 'male + feminized/female masculinized'... expressions to refer to non-binary and transgender groups, rather than non-binary expressions such as 'they/them'."	0.673	0.921	
[Q47] To what extent do you agree with the statement: "I prefer to use GAT's framework of 'male + feminized; female + masculinized'... expressions to refer to non-binary and transgender groups, rather than traditional expressions of male/female."	0.743	0.917	
[Q48] To what extent do you agree with the statement: "I am willing to update my understanding of gender through GAT, recognizing that gender expression is as important as biological sex."	0.771	0.915	

Cronbach α (Standardized): 0.927

Reliability Statistics (Cronbach Alpha)

Items (n=396)	Corrected Item-Total Correlation(CITC)	Cronbach Alpha if Item Deleted	Cronbach α
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Table 7d Reliability Statistics for Study 2

Heterosexual Cis-female Reliability Statistics (Cronbach Alpha)

Items (n=179)	Corrected Item-Total Correlation(CITC)	Cronbach Alpha if Item Deleted	Cronbach α
[Q34] To what extent are you accepting of having a transgender man (who undergone female to male post-transition) as a partner?	0.450	0.901	
[Q35] To what extent are you accepting of having a non-binary individual (assigned male at birth, identifies as neither exclusively male nor female) as a partner?	0.758	0.594	0.799
[Q36] To what extent are you accepting of having a non-binary individual (assigned female at birth, identifies as neither exclusively male nor female) as a partner?	0.756	0.596	

Cronbach α (Standardized): 0.792**Table 7e Reliability Statistics for Study 2**

Non-heterosexual Cis-male Reliability Statistics (Cronbach Alpha)

Items (n=19)	Corrected Item-Total Correlation(CITC)	Cronbach Alpha if Item Deleted	Cronbach α
[Q33] To what extent are you accepting of having a transgender woman (who undergone male to female post-transition) as a partner?	0.899	0.916	
[Q34] To what extent are you accepting of having a transgender man (who undergone female to male post-transition) as a partner?	0.873	0.926	
[Q35] To what extent are you accepting of having a non-binary individual (assigned male at birth, identifies as neither exclusively male nor female) as a partner?	0.884	0.921	0.944
[Q36] To what extent are you accepting of having a non-binary individual (assigned female at birth, identifies as neither exclusively male nor female) as a partner?	0.816	0.944	

Cronbach α (Standardized): 0.945**Table 7f Reliability Statistics for Study 2**

Heterosexual Cis-male Reliability Statistics (Cronbach Alpha)

Items (n=180)	Corrected Item-Total Correlation(CITC)	Cronbach Alpha if Item Deleted	Cronbach α
[Q33] To what extent are you accepting of having a transgender woman (who undergone male to female post-transition) as a partner?	0.616	0.868	
[Q35] To what extent are you accepting of having a non-binary individual (assigned male at birth, identifies as neither exclusively male nor female) as a partner?	0.785	0.719	0.844
[Q36] To what extent are you accepting of having a non-binary individual (assigned female at birth, identifies as neither exclusively male nor female) as a partner?	0.758	0.746	

Cronbach α (Standardized): 0.847

Table 7g Reliability Statistics for Study 2

Non-heterosexual Cis-female Reliability Statistics (Cronbach Alpha)

Items (n=40)	Corrected Item-Total Correlation(CITC)	Cronbach Alpha if Item Deleted	Cronbach α
[Q33] To what extent are you accepting of having a transgender woman (who undergone male to female post-transition) as a partner?	0.809	0.825	
[Q34] To what extent are you accepting of having a transgender man (who undergone female to male post-transition) as a partner?	0.818	0.821	
[Q35] To what extent are you accepting of having a non-binary individual (assigned male at birth, identifies as neither exclusively male nor female) as a partner?	0.740	0.852	0.883
[Q36] To what extent are you accepting of having a non-binary individual (assigned female at birth, identifies as neither exclusively male nor female) as a partner?	0.626	0.893	

Cronbach α (Standardized): 0.882

Table 7h Validity Analysis for Study 2

Validity Analysis

Items (n=396)	Factor	Communalities
	Loadings	
	Factor 1	
[Q14] To what extent are you accepting of your child or future child being non-binary/transgender?	0.597	0.356
[Q15] To what extent do you agree with the statement: "If my friend is non-binary or transgender, it will not negatively affect our friendship. "	0.787	0.620
[Q16] To what extent do you agree with the statement: "If my friend is transgender/non-binary, I would be willing to introduce this friend to my other friends without feeling uncomfortable."	0.806	0.650
[Q17] To what extent do you agree with the statement: "If I have a child in middle school, I believe their curriculum should include knowledge and content on non-binary and transgender identities."	0.709	0.503
[Q18] To what extent do you agree with the statement: "The government should implement policies and measures to eliminate discrimination against non-binary and transgender groups."	0.790	0.624
[Q19] To what extent do you agree with the statement: "Religious organizations should respect and welcome non-binary and transgender groups."	0.718	0.516
[Q24] To what extent do you agree with the statement: "Governments and public places should provide more gender-neutral restrooms to accommodate non-binary and transgender individuals."	0.611	0.374
Eigenvalues (Initial)	3.643	-
% of Variance (Initial)	52.037%	-
% of Cum. Variance (Initial)	52.037%	-
Eigenvalues (Rotated)	3.643	-
% of Variance (Rotated)	52.037%	-
% of Cum. Variance (Rotated)	52.037%	-
KMO	0.815	-
Bartlett's Test of Sphericity (Chi-Square)	1161.828	-
df	21	-
p value	0.000	-

Table 7i Validity Analysis for Study 2

Validity Analysis

Items	Factor Loadings		Communalities
	Factor 1	Factor 2	
[Q25] To what extent do you agree with the statement: "Identification documents such as ID cards, passports, and driver's licenses should include a third gender option besides male/female."	0.488	0.532	0.521
[Q26] To what extent do you agree with the statement: "If someone asks me to use gender-neutral pronouns like they/them instead of he/she for non-binary individuals, I would accept it without feeling any discomfort."	0.755	0.147	0.592
[Q27] To what extent do you agree with the statement: "Transgender women (male to female) should be allowed to participate in women's sports events or other athletic competitions."	0.127	0.892	0.811
[Q28] To what extent do you agree with the statement: "Non-binary individuals who identify as female should be allowed to participate in women's sports events or other athletic competitions."	0.148	0.895	0.822
[Q29] To what extent do you agree with the statement: "Government and social media platforms should offer non-binary gender options during the account registration process on their official websites, allowing for the use of neutral pronouns like they/them for those who do not identify as male or female."	0.629	0.464	0.611
[Q30] To what extent do you agree with the statement: "If strangers indicate that their gender is neither male nor female, I would recognize their gender identities without feeling discomfort."	0.873	0.151	0.785
[Q31] To what extent do you agree with the statement: "If friends express that their gender is neither male nor female, I would recognize their gender identities without feeling discomfort."	0.886	0.119	0.799
[Q32] To what extent do you agree with the statement: "If close family members, such as parents or children, state that their gender is neither male nor female, I would recognize their gender identities without feeling discomfort."	0.714	0.208	0.553
Eigenvalues (Initial)	4.154	1.341	-
% of Variance (Initial)	51.927%	16.757%	-
% of Cum. Variance (Initial)	51.927%	68.684%	-
Eigenvalues (Rotated)	3.299	2.196	-
% of Variance (Rotated)	41.233%	27.451%	-
% of Cum. Variance (Rotated)	41.233%	68.684%	-
KMO	0.823	-	-
Bartlett's Test of Sphericity (Chi-Square)	1650.192	-	-
df	28	-	-

Validity Analysis

Items	Factor Loadings		Communalities
	Factor 1	Factor 2	
p value	0.000	-	

Table 7j Validity Analysis for Study 2

Validity Analysis

Items	Factor Loadings		Communalities
	Factor 1	Factor 2	
[Q39] To what extent do you agree with the statement: "I believe the GAT theory helps in eliminating discrimination against non-binary and transgender groups."	0.799		0.639
[Q41] To what extent do you agree with the statement: "I believe the GAT theory provides an acceptable framework for understanding gender diversity that helps me to better understand it."	0.805		0.649
[Q42] "As a male in terms of biological sex and gender identity, I am willing to use GAT to acknowledge my gender in the form of male + ultra masculine/masculine/mild masculine...or As a female in terms of biological sex and gender identity, I am willing to use GAT to acknowledge my gender in the form of female + ultra feminine/feminine/mild feminine..."	0.767		0.588
[Q43] To what extent do you agree with the statement: "I believe the GAT theory effectively promotes social recognition of non-binary/transgender groups."	0.854		0.729
[Q44] To what extent do you agree with the statement: "I consider the GAT an important step in the development of gender equality, including for non-binary and transgender groups."	0.835		0.697
[Q45] To what extent do you agree with the statement: "The gender-neutral pronoun 'Ta' provided by GAT is convenient and appropriate. I am willing to use 'Ta' instead of 'he/she' to refer to others, including non-binary/transgender individuals."	0.728		0.530
[Q46] To what extent do you agree with the statement: "I prefer to use GAT's framework of 'male + feminized/female masculinized'... expressions to refer to non-binary and transgender groups, rather than non-binary expressions such as 'they/them'."	0.739		0.546
[Q47] To what extent do you agree with the statement: "I prefer to use GAT's framework of 'male + feminized; female + masculinized'... expressions to refer to non-binary and transgender groups, rather than traditional expressions of male/female."	0.799		0.638
[Q48] To what extent do you agree with the statement: "I am willing to update my understanding of gender through GAT, recognizing that gender expression is as important as biological sex."	0.824		0.679

Validity Analysis

Items	Factor	Communalities
	Loadings	
	Factor 1	
Eigenvalues (Initial)	5.693	-
% of Variance (Initial)	63.260%	-
% of Cum. Variance (Initial)	63.260%	-
Eigenvalues (Rotated)	5.693	-
% of Variance (Rotated)	63.260%	-
% of Cum. Variance (Rotated)	63.260%	-
KMO	0.921	-
Bartlett's Test of Sphericity (Chi-Square)	2395.683	-
df	36	-
p value	0.000	-

Table 7k Validity Analysis for Study 2

Heterosexual Cis-male Validity Analysis

Items	Factor	Communalities
	Loadings	
	Factor 1	
[Q33] To what extent are you accepting of having a transgender woman (who undergone male to female post-transition) as a partner?	0.811	0.658
[Q35] To what extent are you accepting of having a non-binary individual (assigned male at birth, identifies as neither exclusively male nor female) as a partner?	0.911	0.830
[Q36] To what extent are you accepting of having a non-binary individual (assigned female at birth, identifies as neither exclusively male nor female) as a partner?	0.903	0.815
Eigenvalues (Initial)	2.303	-
% of Variance (Initial)	76.779%	-
% of Cum. Variance (Initial)	76.779%	-
Eigenvalues (Rotated)	2.303	-
% of Variance (Rotated)	76.779%	-
% of Cum. Variance (Rotated)	76.779%	-

Heterosexual Cis-male Validity Analysis

Items	Factor Loadings	Communalities
	Factor 1	
KMO	0.691	-
Bartlett's Test of Sphericity (Chi-Square)	252.814	-
df	3	-
p value	0.000	-

Table 71 Validity Analysis for Study 2

Non-heterosexual Cis-male Validity Analysis

Items (n=19)	Factor Loadings	Communalities
	Factor 1	
[Q33] To what extent are you accepting of having a transgender woman (who undergone male to female post-transition) as a partner?	0.947	0.897
[Q34] To what extent are you accepting of having a transgender man (who undergone female to male post-transition) as a partner?	0.930	0.866
[Q35] To what extent are you accepting of having a non-binary individual (assigned male at birth, identifies as neither exclusively male nor female) as a partner?	0.936	0.876
[Q36] To what extent are you accepting of having a non-binary individual (assigned female at birth, identifies as neither exclusively male nor female) as a partner?	0.893	0.798
Eigenvalues (Initial)	3.437	-
% of Variance (Initial)	85.931%	-
% of Cum. Variance (Initial)	85.931%	-
Eigenvalues (Rotated)	3.437	-
% of Variance (Rotated)	85.931%	-
% of Cum. Variance (Rotated)	85.931%	-
KMO	0.846	-
Bartlett's Test of Sphericity (Chi-Square)	63.216	-
df	6	-
p value	0.000	-

Non-heterosexual Cis-male Validity Analysis

Items (n=19)	Factor Loadings	Communalities
	Factor 1	

Table 7m Validity Analysis for Study 2

Heterosexual Cis-female Validity Analysis

Items (n=179)	Factor Loadings	Communalities
	Factor 1	
[Q34] To what extent are you accepting of having a transgender man (who undergone female to male post-transition) as a partner?	0.687	0.472
[Q35] To what extent are you accepting of having a non-binary individual (assigned male at birth, identifies as neither exclusively male nor female) as a partner?	0.914	0.836
[Q36] To what extent are you accepting of having a non-binary individual (assigned female at birth, identifies as neither exclusively male nor female) as a partner?	0.914	0.835
Eigenvalues (Initial)	2.142	-
% of Variance (Initial)	71.415%	-
% of Cum. Variance (Initial)	71.415%	-
Eigenvalues (Rotated)	2.142	-
% of Variance (Rotated)	71.415%	-
% of Cum. Variance (Rotated)	71.415%	-
KMO	0.615	-
Bartlett's Test of Sphericity (Chi-Square)	206.671	-
df	3	-
p value	0.000	-

Table 7n Validity Analysis for Study 2

Non-heterosexual Cis-female Validity Analysis

Items (n=40)	Factor Loadings	Communalities
	Factor 1	
[Q33] To what extent are you accepting of having a transgender woman (who undergone male to female post-transition) as a partner?	0.902	0.813
[Q34] To what extent are you accepting of having a transgender man (who undergone female to male post-transition) as a partner?	0.906	0.821
[Q35] To what extent are you accepting of having a non-binary individual (assigned male at birth , identifies as neither exclusively male nor female) as a partner?	0.857	0.734
[Q36] To what extent are you accepting of having a non-binary individual (assigned female at birth, identifies as neither exclusively male nor female) as a partner?	0.772	0.596
Eigenvalues (Initial)	2.963	-
% of Variance (Initial)	74.084%	-
% of Cum. Variance (Initial)	74.084%	-
Eigenvalues (Rotated)	2.963	-
% of Variance (Rotated)	74.084%	-
% of Cum. Variance (Rotated)	74.084%	-
KMO	0.724	-
Bartlett's Test of Sphericity (Chi-Square)	108.853	-
df	6	-
p value	0.000	-

Study 3***Study Design***

Study 3 was designed as a cross-sectional survey to delve into the attitudes of non-binary and transgender groups in mainland China. The focal point of this study was to examine the impact of Gender Acknowledgment Theory (GAT) and the usage of the "Ta" pronoun among these groups. The survey aimed to capture attitudes towards GAT and the "Ta" pronoun,

alongside participants' willingness to adopt these concepts in lieu of traditional and non-binary gender identities.

Sample Size and Selection

The sample size was determined using the formula ($n=Z^2 \cdot p \cdot (1-p)/E^2$), with a 95% confidence level ($Z=1.96$), assuming maximum variability ($p=0.5$), and a 5% margin of error ($E=0.05$). This calculation indicated a required sample size of approximately 385 participants. The study achieved 388 valid responses, slightly exceeding the calculated threshold, thus ensuring adequate statistical power for the analyses.

Participants were selected based on their identification as part of the non-binary, transgender male, or transgender female communities, with the age requirement set at 18 years and above. The recruitment was executed through two online platforms: WeidiaoCha and Wenjuanxing. WeidiaoCha provided 293 valid samples from its proprietary sample pool, while Wenjuanxing contributed 95 valid samples derived from diverse online social media platforms in mainland China such as Baidu Tieba, WeChat groups, XiaoHongShu, and QQ groups.

Instrumentation

The survey consisted of meticulously formulated items aimed at assessing the perspectives and attitudes of non-binary and transgender individuals regarding the Gender Acknowledgment Theory (GAT) and the adoption of the "Ta" pronoun. The questionnaire was systematically segmented into several sections: items Q15, Q16, Q29, and Q30 were dedicated to examining perceptions of GAT's role in mitigating discrimination against non-binary and transgender groups; questions Q18 to Q21 probed into participants' readiness to embrace GAT for describing their gender identity; and items Q22 to Q27 assessed the receptivity towards the "Ta" pronoun as a gender-neutral linguistic alternative. Responses were solicited on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). This scale facilitated a

detailed exploration of the respondents' attitudes towards gender diversity, the prevalence of social discrimination, and the potential of GAT and the "Ta" pronoun to foster enhanced social recognition of non-binary and transgender identities.

Data Exclusion Criteria

1. Not within the age range of 18 years or above.
2. Not identifying as either transgender male, transgender female or non-binary.
3. Provided birth dates not aligning with the selected age range.
4. Submission of illogical birth dates, such as the 13th month of 1982 or February 31st.
5. Surveys invalidated due to timeout, either detected by backend automation or due to the survey page countdown expiring.
6. Failure to select the option indicating careful reading and understanding of conceptual reading questions Q2, Q13, and Q14.
7. Incorrect responses to any trap questions (Q11, Q12, Q17, Q24, Q26, and Q28).

Validity and Reliability Analysis

The reliability analysis, as measured by Cronbach's Alpha, yielded noteworthy findings across different sets of questions related to participants' attitudes towards Gender Acknowledgement Theory (GAT) and the "Ta" pronoun.

For the set of items assessing views on GAT's effectiveness in combatting discrimination and fostering understanding (Q15, Q16, Q29, and Q30), a standardized Cronbach's alpha of 0.815 was observed. This indicates a high level of internal consistency among these items, suggesting that the questions reliably measure the constructs of interest. Similarly, the set of items examining willingness to utilize GAT for personal gender acknowledgement (Q18 to Q21) presented an even higher standardized Cronbach's alpha of 0.831, reinforcing the instrument's reliability in capturing attitudes towards adopting GAT.

The questions related to the acceptance and utility of the "Ta" pronoun (Q22 to Q27 excluding Q24 and Q26) demonstrated a standardized Cronbach's alpha of 0.796. While slightly lower than the other sets, this alpha level still reflects a satisfactory internal consistency, affirming the reliability of these items in assessing attitudes towards the "Ta" pronoun.

The validity of the survey instrument was further established through exploratory factor analysis (EFA). The EFA for questions on attitudes towards GAT (Q15, Q16, Q29, and Q30) revealed a single factor explaining 64.385% of the variance, with factor loadings ranging from 0.752 to 0.854. This supports the construct validity of these items, indicating that they effectively capture a unified concept related to perceptions of GAT.

Subsequent validity analyses for items on willingness to use GAT (Q18 to Q21) and acceptance of the "Ta" pronoun (Q22 to Q27 excluding Q24 and Q26) each identified a single factor that explained a significant proportion of the variance (66.427% and 62.106%, respectively), with high factor loadings for each item. These findings underscore the survey's ability to validly measure distinct but related constructs surrounding gender identity acknowledgment, the adoption of GAT, and the use of the "Ta" pronoun.

The analyses indicate not only the robust psychometric properties of the survey instrument but also highlight its effectiveness in capturing complex attitudes towards non-binary and transgender identities and the nuanced perspectives on GAT and the "Ta" pronoun. The high levels of reliability and validity support the instrument's use in understanding the acceptance and application of GAT among transgender, non-binary, and gender-diverse populations.

Table 8a Reliability Statistics for Study 3

Reliability Statistics (Cronbach Alpha)

Items	Corrected Item-Total Correlation(CITC)	Cronbach Alpha if Item Deleted	Cronbach α
[Q15] To what extent do you agree with the following statement: "I believe GAT theory helps to eliminate discrimination against non-binary and transgender groups."	0.571	0.794	
[Q16] To what extent do you agree with the following statement: "I believe GAT theory is a comprehensive and inclusive framework for understanding gender diversity."	0.633	0.763	
[Q29] To what extent do you agree with the following statement: "I am willing to communicate through the GAT framework with individuals who adhere to traditional binary gender representations , provided both parties acknowledge the GAT theory."	0.622	0.767	0.811
[Q30] To what extent do you agree with the following statement: "When both parties acknowledge the GAT theory , I believe using the GAT framework can help improve my communication and understanding with others."	0.706	0.729	
Cronbach α (Standardized): 0.815			

Table 8b Reliability Statistics for Study 3

Reliability Statistics (Cronbach Alpha)

Items	Corrected Item-Total Correlation(CITC)	Cronbach Alpha if Item Deleted	Cronbach α
[Q18] To what extent do you agree with the following statement: "I am willing to use GAT to describe my gender identity."	0.704	0.765	
[Q19] To what extent do you agree with the following statement: "I believe GAT theory reflects my gender identity and expression more accurately than non-binary expressions."	0.687	0.774	
[Q20] To what extent do you agree with the following statement: "I am willing to use GAT theory instead of traditional binary gender representations."	0.591	0.815	0.831
[Q21] To what extent do you agree with the following statement: "I am willing to use the Gender Acknowledgement Theory (GAT) as a replacement for non-binary gender representations."	0.657	0.788	
Cronbach α (Standardized): 0.831			

Table 8c Reliability Statistics for Study 3

Reliability Statistics (Cronbach Alpha)			
Items	Corrected Item-Total Correlation(CITC)	Cronbach Alpha if Item Deleted	Cronbach α
[Q22] To what extent do you agree with the following statement: "I think the 'Ta' pronoun is a suitable gender-neutral pronoun for everyone."	0.599	0.734	
[Q23] To what extent do you agree with the following statement: "I am willing to use the 'Ta' pronoun as my pronoun in daily life."	0.621	0.721	
[Q25] To what extent do you agree with the following statement: "I am willing to use the 'Ta' pronoun to address non-binary and transgender individuals in daily life."	0.661	0.710	0.787
[Q27] To what extent do you agree with the following statement: "I am willing to use the 'Ta' pronoun to address individuals whose physiological sex and psychological gender are consistent in daily life."	0.530	0.776	
Cronbach α (Standardized): 0.796			

Table 8d Validity Analysis for Study 3

Validity Analysis		
Items	Factor Loadings	Communalities
	Factor 1	
[Q15] To what extent do you agree with the following statement: "I believe GAT theory helps to eliminate discrimination against non-binary and transgender groups."	0.752	0.566
[Q16] To what extent do you agree with the following statement: "I believe GAT theory is a comprehensive and inclusive framework for understanding gender diversity."	0.801	0.642
[Q29] To what extent do you agree with the following statement: "I am willing to communicate through the GAT framework with individuals who adhere to traditional binary gender representations , provided both parties acknowledge the GAT theory."	0.799	0.638
[Q30] To what extent do you agree with the following statement: "When both parties acknowledge the GAT theory , I believe using the GAT framework can help improve my communication and understanding with others."	0.854	0.729

Validity Analysis

Items	Factor Loadings	Communalities
	Factor 1	
Eigenvalues (Initial)	2.575	-
% of Variance (Initial)	64.385%	-
% of Cum. Variance (Initial)	64.385%	-
Eigenvalues (Rotated)	2.575	-
% of Variance (Rotated)	64.385%	-
% of Cum. Variance (Rotated)	64.385%	-
KMO	0.778	-
Bartlett's Test of Sphericity (Chi-Square)	526.839	-
df	6	-
p value	0.000	-

Table 8e Validity Analysis for Study 3

Validity Analysis

Items	Factor Loadings	Communalities
	Factor 1	
[Q18] To what extent do you agree with the following statement: "I am willing to use GAT to describe my gender identity."	0.848	0.719
[Q19] To what extent do you agree with the following statement: "I believe GAT theory reflects my gender identity and expression more accurately than non-binary expressions."	0.834	0.696
[Q20] To what extent do you agree with the following statement: "I am willing to use GAT theory instead of traditional binary gender representations."	0.761	0.579
[Q21] To what extent do you agree with the following statement: "I am willing to use the Gender Acknowledgement Theory (GAT) as a replacement for non-binary gender representations."	0.814	0.663
Eigenvalues (Initial)	2.657	-
% of Variance (Initial)	66.427%	-
% of Cum. Variance (Initial)	66.427%	-
Eigenvalues (Rotated)	2.657	-

Validity Analysis

Items	Factor Loadings	Communalities
	Factor 1	
% of Variance (Rotated)	66.427%	-
% of Cum. Variance (Rotated)	66.427%	-
KMO	0.779	-
Bartlett's Test of Sphericity (Chi-Square) □	584.645	-
df	6	-
p value	0.000	-

Table 8f Validity Analysis for Study 3

Validity Analysis

Items	Factor Loadings	Communalities
	Factor 1	
[Q22] To what extent do you agree with the following statement: "I think the 'Ta' pronoun is a suitable gender-neutral pronoun for everyone."	0.787	0.619
[Q23] To what extent do you agree with the following statement: "I am willing to use the 'Ta' pronoun as my pronoun in daily life."	0.806	0.650
[Q25] To what extent do you agree with the following statement: "I am willing to use the 'Ta' pronoun to address non-binary and transgender individuals in daily life."	0.833	0.694
[Q27] To what extent do you agree with the following statement: "I am willing to use the 'Ta' pronoun to address individuals whose physiological sex and psychological gender are consistent in daily life."	0.722	0.521
Eigenvalues (Initial)	2.484	-
% of Variance (Initial)	62.106%	-
% of Cum. Variance (Initial)	62.106%	-
Eigenvalues (Rotated)	2.484	-
% of Variance (Rotated)	62.106%	-
% of Cum. Variance (Rotated)	62.106%	-
KMO	0.774	-
Bartlett's Test of Sphericity (Chi-Square)	461.558	-

Validity Analysis

Items	Factor Loadings	Communalities
	Factor 1	
df	6	-
p value	0.000	-

Data Collection for Studies 1, 2, and 3

The data collection methodologies employed across the three studies represent a comprehensive approach to gathering insights on societal perspectives towards transgender and non-binary individuals and the acceptance of Gender Acknowledgment Theory (GAT). In Study 1, data were amassed through a triangulated strategy involving online surveys, phone interviews, and mailed questionnaires facilitated by the Pew Research Center, Public Religion Research Institute (PRRI), and YouGov. This multifaceted technique ensured a wide-reaching engagement, capturing a diverse array of respondent experiences and attitudes within the United States. The emphasis on anonymity and confidentiality in responses was paramount, maintaining high ethical standards in social research.

For Studies 2 and 3, which focused on mainland China, data collection pivoted to digital platforms to navigate the unique socio-cultural landscape effectively. Study 2 utilized the online platform WeidiaoCha, where participants engaged with preliminary conceptual information about non-binary and transgender identities alongside GAT before proceeding with the survey. This preparatory step was critical for ensuring informed responses that reflect a nuanced understanding of the subject matter.

Study 3 expanded the digital engagement by incorporating both WeidiaoCha and Wenjuanxing platforms for participant recruitment and data collection. This dual-platform approach facilitated the accumulation of 388 valid responses, with WeidiaoCha contributing 293

from its proprietary sample pool and Wenjuanxing adding 95 from a variety of online social media platforms, including Baidu Tieba, WeChat groups, XiaoHongShu, and QQ groups. The selection of these platforms enabled access to a broader demographic and ensured the representation of a wide spectrum of perspectives from within the non-binary and transgender communities in mainland China.

Across all studies, the commitment to anonymity and confidentiality remained a cornerstone of the data collection process, adhering to stringent ethical standards. The methodologies reflect a tailored approach to each study's geographical and cultural context, ensuring that the data collected are both relevant and respectful of participants' privacy and dignity. This integrated approach underscores the importance of ethical considerations in social research, particularly when exploring sensitive topics such as gender identity and societal acceptance.

Data Analysis for Studies 1, 2, and 3

The data analysis frameworks employed across the three studies were meticulously designed to offer a multidimensional view of societal attitudes towards transgender and non-binary individuals, as well as the acceptance of Gender Acknowledgment Theory (GAT). Each study, while unique in its focus, contributes to a holistic understanding of the underlying patterns and shifts in societal perspectives.

In Study 1, the analysis was rooted in quantitative methodologies, with descriptive statistics playing a pivotal role in summarizing the data collected from various demographic segments within the United States. The study leveraged comparisons across different time points to unveil trends concerning the social recognition and acceptance of transgender and non-binary individuals. This longitudinal perspective was crucial for tracking changes over time, offering insights into the evolving landscape of societal attitudes.

Study 2 adopted a qualitative lens for its analysis, providing a rich, narrative understanding of the survey responses. This approach enabled a deeper dive into the societal trends, unraveling the complex dynamics within and across the constructs of social recognition, social acceptance, and perceptions of discrimination and acceptance. By focusing on the qualitative aspects, Study 2 offered nuanced insights into the attitudes and perceptions that quantitative data alone might not fully capture.

Study 3 integrated both quantitative and qualitative analysis methods, utilizing descriptive statistics to summarize the data, alongside reliability analysis using Cronbach's alpha and exploratory factor analysis (EFA) to assess the construct validity of the survey items. Conducted using SPSSAU, this comprehensive approach ensured a robust examination of the survey's psychometric properties, validating the measures used to gauge attitudes towards GAT and the adoption of the "Ta" pronoun among non-binary and transgender communities in mainland China.

Question Design for Studies 2 and 3

In the design of Study 2 and Study 3, questions were informed by the approaches taken by Pew Research Center, PRRI, and YouGov, without direct quotations. The scope of inquiries encompassed various topics including the use of non-binary pronouns, dynamics within friendships and families, governmental policies, public amenities, educational systems, and criteria for selecting partners, among others. This strategy ensured a comprehensive exploration of attitudes and perceptions across a broad spectrum of societal and personal domains.

Ethical Considerations for Studies 1, 2, and 3

In conducting Studies 1, 2, and 3, ethical integrity was paramount, guided by the American Psychological Association (APA) and the Declaration of Helsinki. Study 1 utilized

publicly available data, emphasizing privacy, confidentiality, and informed consent as per original collection protocols. Studies 2 and 3, involving primary data collection in mainland China, ensured informed consent was obtained electronically, with each study's protocol receiving Institutional Review Board (IRB) approval from Hephaestus Education Technology Ltd. Across all studies, the ethical approach was consistent, prioritizing participant rights and maintaining research integrity, thereby ensuring that the exploration of gender identity and societal acceptance was conducted with the utmost respect and responsibility.

Results

Study 1

Perceptions of Discrimination and acceptance

Perceptions of Discrimination

The Pew Research Center (2022b) in May (n=5,120 for the general public; n=400 for Black Americans) addressed the public's perception of discrimination against transgender people. A considerable percentage of respondents from the general public (29%) and Black Americans (36%) reported believing there is a great deal of discrimination against transgender individuals. Furthermore, 28% of the general public and 23% of Black Americans acknowledged a fair amount of discrimination, indicating a significant awareness of the adversities transgender people encounter.

Perceptions of Societal Acceptance

The same survey: Pew Research Center (2022b) investigated societal acceptance of transgender individuals. Only a small fraction of respondents from both the general public (14%) and Black Americans (13%) perceived society as being extremely or very accepting of transgender people. Conversely, a large portion viewed society as only a little or not at all

accepting (44% of the general public, 40% of Black Americans), highlighting perceived deficiencies in societal acceptance.

Public Opinion on Societal Acceptance Levels

Participants were also asked about their views on the current level of societal acceptance of transgender individuals. The responses were divided; a significant portion of the general public (38%) felt that society has gone too far in accepting transgender people, while a notable percentage (36%) believed that society has not gone far enough in its acceptance efforts. (Pew Research Center, 2022b)

Social Recognition

Restroom Use Preferences

The Pew Research Center (2016)'s survey on American Trends Panel Wave 20 (n=4,538) addressed the debate over public restroom use by transgender individuals. When asked about restroom use aligned with gender identity, 51% of respondents supported transgender individuals using restrooms corresponding to their gender identity, while 46% believed they should use restrooms matching their sex at birth. This nearly even split underscores the polarized views present in American society regarding fundamental aspects of social recognition.

Comfort with Gender-neutral Pronouns

The comfort level with using gender-neutral pronouns to refer to someone was measured in several surveys. In Pew Research Center (2018) survey (n varies by generation, total respondents across all generations were substantial), the percentage of respondents feeling "very comfortable" ranged from 18% among the Silent Generation to 32% among Generation Z. This generational divide highlights a gradual shift towards greater acceptance among younger Americans, though discomfort remains significant across all age groups. Moreover, in a YouGov survey (2022) with a sample of 1,000 U.S. adult citizens, public opinion was gauged on the use

of chosen pronouns in various settings and the comfort level with gender-neutral pronouns. The findings revealed that 30% of respondents considered it a good idea to have space for chosen pronouns on personal social media profiles, while 25% and 21% felt the same for workers' name badges and employees' email signatures, respectively. Opinions were divided on the comfort level with using gender-neutral pronouns if someone requested it, with 24% feeling very comfortable, 27% somewhat comfortable, 25% somewhat uncomfortable, and another 24% very uncomfortable, indicating a society split on the issue of pronoun usage and recognition in both private and professional realms

By June 2021, Pew Research Center (2021a)'s American Trends Panel Wave 91 (n=10,606) showed that 41% of respondents acknowledged the validity of gender identities different from the sex assigned at birth, reflecting a slight increase in social recognition. However, a substantial portion, 56%, still adhered to the belief that gender is determined by the sex assigned at birth, indicating persistent resistance to recognizing gender diversity.

Educational Content on Gender Diversity

The question of whether education systems should teach that gender is determined by sex at birth or acknowledge gender diversity received mixed responses. In September 2022, the Pew Research Center (2022a)'s survey of American parents (n=3,757) revealed a split, with approximately 31% of parents favoring each perspective. This division underscores the contentious nature of incorporating gender diversity into educational content.

Analysis Over Time (2016-2023)

Over the eight-year span from 2016 to 2023, the data indicate that social recognition of transgender and non-binary individuals in the United States has not significantly advanced. Despite some indications of increased comfort with gender-neutral pronouns and recognition of

gender identity among younger generations, the nation remains deeply divided. This division is evident in attitudes towards restroom use, educational content on gender, and the basic acknowledgment of non-binary and transgender identities. For example, increasing belief in a gender binary is observed, with 59% in 2021 and 65% in 2023 supporting only two gender identities, indicating a decrease in recognition of non-binary genders. (Public Religion Research Institute, 2023)

Line Graph 1 Percentage of People Believing in Only Two Gender identities (2021, 2023)



Social Acceptance

Views on Social Acceptance

The Pew Research Center (2018)'s American Trends Panel Wave 38 & Survey of Teens (n=varies by generation with a substantial total across generations) asked participants about their perception of society's acceptance of people who don't identify strictly as male or female. Approximately 50% of Generation Z and 47% of Millennials felt society was not accepting enough, indicating a generational inclination towards greater inclusivity. However, a significant portion of older generations viewed society as either too accepting or about right, suggesting generational divides in the perception of social acceptance.

Views on Transgender Acceptance in Society

The Pew Research Center (2021b)'s American Trends Panel Wave 92 (n=10,221) explored opinions on the social acceptance of transgender individuals. A combined 38% viewed greater social acceptance of transgender people as either "very" or "somewhat" good for society, while 32% viewed it as somewhat or very bad, highlighting a society still divided on the issue of transgender acceptance.

Comfort with Transgender Individuals

The Public Religion Research Institute (2023)'s Politics of Gender Survey (March 2023, n=5,438) measured comfort levels with having a transgender friend. Here, 41% of respondents expressed comfort to some degree, juxtaposing the 33% who felt somewhat or very uncomfortable, showcasing a moderate level of social acceptance amidst significant discomfort.

Educational Content on Gender Diversity

Regarding the inclusion of gender diversity in educational content, the Public Religion Research Institute (2023)'s survey revealed mixed opinions on when it's appropriate to discuss non-binary and transgender topics in schools. A notable proportion of respondents felt such discussions were never appropriate (36% for non-binary topics, 34% for transgender topics), while others advocated for inclusion at various educational stages, indicating a lack of consensus on educating youth about gender diversity.

Legislative Support for LGBTQ+ Rights

Support for laws protecting LGBTQ+ individuals from discrimination showed a gradual increase over time. In the survey of Public Religion Research Institute (2023), 79% of respondents favored such laws, a significant rise compared to earlier years. This trend suggests

growing social acceptance in terms of legal protections, even as societal attitudes remain complex and divided.

Analysis Over Time (2016-2023)

From 2016 to 2023, there has been a perceptible shift towards increased legislative support for LGBTQ+ rights, reflecting a component of social acceptance. Yet, societal attitudes towards acceptance of non-binary and transgender individuals reveal persistent divisions, with significant generational gaps in perceptions of acceptance and comfort levels with transgender individuals.

Findings Related to Both Social Acceptance and Social Recognition

Legislative Attitudes Towards Gender Transition for Minors

In the Public Religion Research Institute (2023)'s Politics of Gender Survey (March 2023, n=5,438), a combined 41% of respondents favored laws that would restrict parents' ability to consent to gender transition medical care for their children, revealing a significant portion of the population that aligns with more traditional views of gender. Conversely, an equal proportion of respondents (56%) opposed or strongly opposed such restrictions, indicating a recognition of gender diversity and a stance supportive of transgender rights, including the autonomy of individuals and families in making decisions related to gender transition.

This question not only reflects societal attitudes towards transgender individuals' rights but also captures the broader debate on social recognition and acceptance. Those opposing the restrictions may do so from a standpoint of recognizing and validating transgender identities, advocating for the right to access gender-affirming care. Meanwhile, support for such laws might stem from a lack of acceptance for non-traditional gender identities or from concerns about minors making irreversible decisions.

Study 2

Data Exclusion and Implications for Gender Education

Out of the total samples, 8398 were deemed invalid while 396 were considered valid.

This study targeted cisgender males and females aged 36-42 with at least a college education and not currently enrolled as students. Samples excluded included those who declined the informed consent (Q1: 94 samples), those unwilling to engage with conceptual questions (Q10: 15 samples, Q37: 4 samples, Q38: 2 samples), non-cisgender individuals (Q2: 236 samples), participants without at least a college education (Q6: 861 samples), students (Q5: 1089 samples), and those whose age did not match the specified range (Q3: 1754 samples). Notably, there was overlap between age and student status exclusions, as younger students were often excluded for both reasons. Invalid samples also included those with inconsistent birth dates relative to the age range (71 samples) and those with irrational birth date entries (8 samples).

An additional 2811 samples were invalidated due to timeouts detected by the system. In total, 6945 samples were excluded based on demographic information and timeouts, accounting for 82.70% of all invalid samples.

Furthermore, 58 samples were invalidated due to contradictory answers in questions 2, 8, and 33, and 31 samples were invalidated due to contradictions in questions 2, 8, and 34.

Trap questions resulted in 505 invalid samples for Q12, 281 for Q13, 141 for Q21, 75 for Q22, 46 for Q23, and 316 for Q40, totaling 1361 invalid samples due to incorrect responses to trap questions. This accounted for 16.20% of all invalid samples and was nearly 3.5 times the number of valid samples (396). The combined total of valid samples and those invalidated by trap questions was 1757, with the invalid trap question responses comprising 77.46% of this total, and valid samples making up only 22.54%.

The high rate of errors among survey participants can be attributed to: 1) lack of careful engagement with the conceptual reading questions, 2) inattention to question details and options, and 3) failure to fully comprehend the concepts even after reading them. While instances of 1 and 2 are plausible in survey contexts, the exceptionally high rate of invalidity likely stems from reason 3, which may represent the primary reason for participant failure. Despite the requirement for at least a college-level education, the high failure rate due to trap questions reflects a societal issue: a significant lack of gender and sex education in China, especially concerning gender minorities. Many individuals may not understand concepts of gender, the distinction between gender (social/psychological construct) and biological sex, and the definitions of transgender and non-binary identities. This lack of understanding poses considerable challenges for the social acceptance and recognition of gender minorities. The significant number of participants unable to grasp these concepts, even with the provision of conceptual reading materials, underscores the urgent need for widespread dissemination of gender and sexual education and research into how such education can be effectively translated to the societal level.

Demographic Information

In this study, the demographic information was from 396 random-selected valid participants, quite evenly split between those identifying as biological and gender identity males (50.25%, 199 individuals) and females (49.75%, 197 individuals) and all respondents fell within the 36-42 year age bracket. Regarding occupation, the vast majority were employed (90.91%, 360 individuals), with the rest classified under 'other' (9.09%, 36 individuals), and no students among the participants. Educational levels varied, with a small fraction holding Doctorate degrees (2.02%, 8 individuals), a larger portion with Master's (12.88%, 51 individuals), the majority with Bachelor's degrees (60.86%, 241 individuals), and a significant number with Associate's degrees (24.24%, 96 individuals).

When exploring religious beliefs, a diverse range was reported: Buddhism (16.16%, 64 individuals), Taoism (2.27%, 9 individuals), Islam (0.51%, 2 individuals), Christianity (4.04%, 16 individuals), and a predominant lack of religious belief (76.77%, 304 individuals), with a negligible fraction identifying with other religions (0.25%, 1 individual). Sexual orientation among the respondents was also varied, with the majority identifying as heterosexual (85.10%, 337 individuals), followed by smaller percentages identifying as homosexual (3.03%, 12 individuals), bisexual (7.83%, 31 individuals), pansexual (2.53%, 10 individuals), and asexual (1.52%, 6 individuals), with no respondents choosing 'other'. This demographic data offers a detailed snapshot of the study's participants, showcasing a focused group in terms of age, sex and gender with diverse levels of education, a range of religious beliefs, and various sexual orientations.

Beliefs on What Determines Gender

In the study, a significant majority of participants (68.94%) expressed the belief that gender is determined by both biological and psychological factors, a finding that diverges from the traditional binary gender representation recognized at the official levels in China where official documents have only male/female options and the concept of gender is often unknown to the majority of people. Notably, in Chinese discourse, there is no distinct linguistic differentiation between 'sex' and 'gender,' with both terms often used interchangeably outside of academic contexts. Despite this, only 24.75% of respondents in question Q9 posited that gender is solely determined by biological aspects. A minority, 6.31%, attributed gender determination exclusively to psychological aspects. These results suggest a broad consensus that gender is influenced by both biological and psychological elements, thereby providing support for the necessity of the Gender Acknowledgment Theory (GAT).

Comparatively, data from the Pew Research Center in the United States presented a binary choice on a similar question (except the 'no answer' option), potentially influencing the polarized outcomes observed. The lack of a third option may have restricted the expression of nuanced viewpoints. This indicates that, when provided with more options, respondents may reveal a more complex understanding of gender determination.

The Pew Research Center's 2021 survey presented participants (n=10,221) with two statements regarding gender identity, resulting in 56% (2021) and 54% (2017) agreeing that gender is determined by sex assigned at birth, while 41% (2021) and 44% (2017) believed a person can identify as a different gender from the one assigned at birth. Only 1% was marked no answer (both 2021 and 2017). This outcome highlights the importance of offering a range of response options (other than others, no answer, prefer not to say, etc.) in future surveys to more accurately capture public opinion on gender identity, suggesting that the binary opposition observed in American responses may not fully represent the complexity of public views on gender.

Perceptions of discrimination against transgender individuals and societal acceptance of non-binary and transgender people.

Regarding the perceived discrimination against transgender individuals in society (Q11), responses indicated a recognition of discrimination with 29.04% of respondents perceiving quite a lot of discrimination and 19.70% noting a lot of discrimination. A smaller segment, 8.33%, believed there is no discrimination, and 2.27% viewed the discrimination as extreme.

In terms of societal acceptance of non-binary and transgender individuals (Q20), a significant portion of participants acknowledged a deficiency in acceptance. 30.56% mostly agreed and 22.98% strongly agreed that society does not sufficiently accept non-binary/transgender individuals, while a minimal 1.01% strongly disagreed with this statement.

These results highlight a prevalent perception of discrimination and a recognition of the inadequate acceptance of non-binary and transgender individuals within society, reflecting the challenges faced by these communities in achieving full societal recognition and acceptance.

Social Acceptance

The results delve into social acceptance towards non-binary and transgender (NBTG) individuals across seven domains ranging from personal relationships to societal and institutional perspectives, framed within the concept of social acceptance. This approach encompasses attitudes towards family members (specifically children), friends, educational content, government policies, religious organizations, and public facilities.

Concerning the acceptance of children belonging to the NBTG community, a quite negative perspective emerged, with a notable portion of respondents expressing varying degrees of non-acceptance. Specifically, 26.01% strongly opposed, 20.45% mostly opposed, and 15.40% slightly opposed the idea of having a non-binary or transgender child. On the other hand, a smaller fraction displayed acceptance, with 9.34% slightly accepting, 6.31% mostly accepting, and 4.29% strongly accepting such a scenario.

Acceptance towards friends who are non-binary or transgender revealed a more favorable outlook. A minority strongly (4.29%) or mostly (9.60%) disagreed with the notion that a friend's NBTG identity would negatively impact the friendship, while a significant proportion of participants agreed to varying extents, culminating in 16.67% strongly agreeing with the statement.

The willingness to introduce a non-binary or transgender friend to other friends without discomfort also showed varied responses, with a total of 27.27% disagreeing to some extent, and a larger fraction, aggregating to 49.75%, expressing their willingness to do so.

The inclusion of non-binary and transgender identities within middle school curriculums received mixed responses, with a cumulative 29.79% disagreeing and 47.47% in favor of such educational content.

Responses to statements regarding governmental policies, religious organization stances, and the provision of gender-neutral restrooms in public spaces collectively indicate a moderate to high level of agreement for adopting inclusive measures to support the NBTG community. Specifically, the agreement levels for government intervention to curb discrimination, religious organizations' acceptance, and the provision of gender-neutral restrooms were notably higher than for other areas.

Descriptive analysis of these questions highlighted the diversity in attitudes, with mean scores indicating a general trend towards neutrality or mild agreement on issues of NBTG inclusion and acceptance. The standard deviations and median values underscore the variability in responses, reflecting the complex nature of societal attitudes towards non-binary and transgender individuals.

The questions Q14 through Q24 (excluding Q20, 21,22, and 23) selected as questions related to social acceptance because they reflect the extent to which non-binary and transgender identities are perceived as valid and embraced within families, friendships, educational content, governmental policies, religious organizations, and public accommodations. By assessing attitudes towards accepting a non-binary or transgender child, maintaining friendships with non-binary or transgender individuals, advocating for inclusive educational curricula, supporting anti-discrimination policies, respecting diverse gender identities within religious contexts, and implementing gender-neutral restrooms, these questions collectively measure social acceptance. This concept is defined as the degree to which individuals and communities acknowledge,

respect, and integrate non-binary and transgender individuals into the fabric of society. It spans from personal behaviors and emotional responses that signify tolerance and inclusivity to societal norms that demonstrate a collective acknowledgment of gender diversity. Through these inquiries, the survey captures the multifaceted nature of social acceptance, highlighting its crucial role in shaping the experiences and social integration of non-binary and genderqueer individuals across different spheres of life.

Table 9a Descriptive Analysis for Study 2

Descriptive Analysis

Items	N of samples	Min	Max	Mean	Std. Deviation	Median
[Q14] To what extent are you accepting of your child or future child being non-binary/transgender?	396	1.000	7.000	3.005	1.750	3.000
[Q15] To what extent do you agree with the statement: “ If my friend is non-binary or transgender, it will not negatively affect our friendship. ”	396	1.000	7.000	4.742	1.719	5.000
[Q16] To what extent do you agree with the statement: “If my friend is transgender/non-binary, I would be willing to introduce this friend to my other friends without feeling uncomfortable.”	396	1.000	7.000	4.457	1.736	4.000
[Q17] To what extent do you agree with the statement: “If I have a child in middle school, I believe their curriculum should include knowledge and content on non-binary and transgender identities.”	396	1.000	7.000	4.341	1.885	4.000
[Q18] To what extent do you agree with the statement: “The government should implement policies and measures to eliminate discrimination against non-binary and transgender groups.”	396	1.000	7.000	4.763	1.594	5.000
[Q19] To what extent do you agree with the statement: “Religious organizations should respect and welcome non-binary and transgender groups.”	396	1.000	7.000	4.851	1.516	5.000
[Q24] To what extent do you agree with the statement: “Governments and public places should provide more gender-neutral restrooms to accommodate non-binary and transgender individuals.”	396	1.000	7.000	4.465	1.713	4.000

Social Recognition in General

The survey questions Q25 to Q32 focused on assessing attitudes towards the social recognition of non-binary and transgender individuals, spanning from institutional

acknowledgment in identification documents to personal recognition in social interactions and sports participation.

For the addition of a third gender option on identification documents (Q25), responses were divided with 13.13% strongly disagreeing and 5.81% strongly agreeing, indicating varied levels of societal recognition for gender diversity. On comfort with using non-binary pronouns (Q26), a more accepting attitude was noted, with 24.24% mostly agreeing and 15.91% strongly agreeing, suggesting a shift towards recognizing non-binary identities.

The perspectives on transgender women's participation in women's sports (Q27) and non-binary individuals participating in women's competitions (Q28) reflected strong resistance, with 26.52% and 25.76% strongly disagreeing, respectively. This points to ongoing debates about gender identity in sports.

The proposition for government and social media platforms to offer non-binary gender options during account registration (Q29) saw 17.42% mostly agreeing and 8.33% strongly agreeing, illustrating a call for broader social and institutional recognition of diverse gender identities.

Responses to whether strangers', friends', and family members' non-binary gender identities would be recognized without discomfort (Q30, Q31, Q32) revealed a trend towards recognition, with 21.72%, 23.48%, and 18.43% mostly agreeing, respectively. This indicates a growing personal acknowledgment of gender diversity beyond traditional norms.

As for the descriptive analysis, the mean scores across these questions ranged, reflecting the complex landscape of societal attitudes towards non-binary and transgender recognition. For example, the mean score for Q25 was 3.710, showing slight disagreement for the inclusion of a third gender option on ID documents, while Q26 had a higher mean of 4.732, indicating greater

comfort with gender-neutral pronouns. Variability in responses was highlighted by the standard deviations and median values, demonstrating the diversity of opinions within the population on recognizing non-binary and transgender identities in various facets of social life.

Questions Q25 to Q32 are related to social recognition because they intricately map onto the concept of social recognition by probing into the societal, legal, and administrative acknowledgment of diverse gender identities, going beyond mere acceptance to require tangible affirmation and integration of these identities into various aspects of life. From advocating for a third gender option in official documents, embracing the use of gender-neutral pronouns, to supporting the inclusion of transgender and non-binary individuals in sports and advocating for gender-diverse options on digital platforms, these questions reflect the essence of social recognition. They underscore the need for systemic changes and institutional commitments that not only validate but actively support non-binary and genderqueer (NBGQ) individuals. This approach embodies the shift towards a more inclusive society where the acknowledgment of diverse gender identities is embedded in legal documentation, institutional policies, and the collective consciousness, thereby fostering a supportive environment that profoundly impacts the well-being and integration of NBGQ individuals into all spheres of social life.

Table 9b Descriptive Analysis for Study 2

Descriptive Analysis

Items	N of samples	Min	Max	Mean	Std. Deviation	Median
[Q25] To what extent do you agree with the statement: "Identification documents such as ID cards, passports, and driver's licenses should include a third gender option besides male/female."	396	1.000	7.000	3.710	1.688	4.000
[Q26] To what extent do you agree with the statement: "If someone asks me to use gender-neutral pronouns like they/them instead of he/she for non-binary individuals, I would accept it without feeling any discomfort."	396	1.000	7.000	4.732	1.679	5.000

Descriptive Analysis

Items	N of samples	Min	Max	Mean	Std. Deviation	Median
[Q27] To what extent do you agree with the statement: “Transgender women (male to female) should be allowed to participate in women’s sports events or other athletic competitions.”	396	1.000	7.000	3.043	1.825	3.000
[Q28] To what extent do you agree with the statement: “Non-binary individuals who identify as female should be allowed to participate in women’s sports events or other athletic competitions.”	396	1.000	7.000	3.040	1.764	3.000
[Q29] To what extent do you agree with the statement: “Government and social media platforms should offer non-binary gender options during the account registration process on their official websites, allowing for the use of neutral pronouns like they/them for those who do not identify as male or female.”	396	1.000	7.000	4.346	1.570	4.000
[Q30] To what extent do you agree with the statement: “If strangers indicate that their gender is neither male nor female, I would recognize their gender identities without feeling discomfort.”	396	1.000	7.000	4.687	1.571	5.000
[Q31] To what extent do you agree with the statement: “If friends express that their gender is neither male nor female, I would recognize their gender identities without feeling discomfort.”	396	1.000	7.000	4.795	1.583	5.000
[Q32] To what extent do you agree with the statement: “If close family members, such as parents or children, state that their gender is neither male nor female, I would recognize their gender identities without feeling discomfort.”	396	1.000	7.000	4.056	1.789	4.000

Social Recognition in Mate Selection Preference

The survey questions Q33, Q34, Q35, and Q36 explore participants' social recognition and mate selection preferences towards non-binary and transgender individuals, reflecting the complexities of sexual orientation, gender identity recognition, and acceptance in romantic contexts.

In assessing inconsistencies, responses that contradicted the expected sexual orientation and gender identity acceptance, such as heterosexual males accepting a transgender man or heterosexual females accepting a transgender woman as partners, were deemed invalid. This approach underscores the nuanced intersection of biological sex, gender identity, and sexual orientation in shaping mate preferences.

The descriptive analysis for heterosexual cis-male participants shows a general low acceptance for having a transgender woman or a non-binary individual as a partner, with mean scores of 1.917 for transgender women and 1.900 for non-binary individuals assigned male at birth, indicating a preference alignment with traditional gender norms.

Conversely, non-heterosexual cis-male participants exhibited a higher acceptance level, with mean scores of 3.421 for transgender women and 3.789 for non-binary individuals assigned female at birth, reflecting a broader recognition of diverse gender identities in mate selection.

Heterosexual cis-female responses also displayed low acceptance for transgender men and non-binary individuals as partners, with mean scores of 2.338 for transgender men, suggesting a cautious approach to gender diversity in romantic preferences.

Non-heterosexual cis-female participants showed greater acceptance, with mean scores reaching up to 4.550 for non-binary individuals assigned female at birth, indicating a more inclusive understanding of gender identity in forming romantic relationships.

This analysis reveals the generally low degrees of social recognition of non-binary and transgender individuals within the context of mate preferences, signaling significant hardship for non-binary and transgender individual's dating issues.

Questions Q33 to Q36 are related to social recognition because they concern partner preferences encapsulate the essence of social recognition by delving into the acceptance of transgender and non-binary individuals in intimate relationships, highlighting a profound level of societal integration and validation of diverse gender identities. This acceptance signifies more than personal tolerance; it reflects a broader societal shift towards recognizing and affirming these identities not just in public or legal spheres but within the deeply personal realms of love and partnership. By exploring openness to relationships with transgender and non-binary

individuals, these questions underscore the crucial role of social recognition in transcending traditional gender norms and binaries, advocating for systemic and institutional changes that support and validate non-binary and genderqueer individuals in meaningful and transformative ways. This approach to social recognition emphasizes the importance of acknowledging and validating individuals' chosen identities, names, and pronouns within intimate settings, marking a significant step towards genuine inclusivity and equality for all gender identities in society.

Table 9c Descriptive Analysis for Study 2

Descriptive Analysis (Heterosexual Cis-male)

Items	N of samples	Min	Max	Mean	Std. Deviation	Median
[Q33] To what extent are you accepting of having a transgender woman (who undergone male to female post-transition) as a partner?	180	1.000	6.000	1.917	1.209	1.000
[Q35] To what extent are you accepting of having a non-binary individual (assigned male at birth, identifies as neither exclusively male nor female) as a partner?	180	1.000	6.000	1.900	1.201	1.000
[Q36] To what extent are you accepting of having a non-binary individual (assigned female at birth, identifies as neither exclusively male nor female) as a partner?	180	1.000	7.000	2.256	1.461	2.000

Table 9c Descriptive Analysis for Study 2

Descriptive Analysis (Non-heterosexual Cis-male)

Items	N of samples	Min	Max	Mean	Std. Deviation	Median
[Q33] To what extent are you accepting of having a transgender woman (who undergone male to female post-transition) as a partner?	19	1.000	7.000	3.421	2.364	2.000
[Q34] To what extent are you accepting of having a transgender man (who undergone female to male post-transition) as a partner?	19	1.000	7.000	3.474	2.118	4.000
[Q35] To what extent are you accepting of having a non-binary individual (assigned male at birth, identifies as neither exclusively male nor female) as a partner?	19	1.000	7.000	3.684	2.286	4.000
[Q36] To what extent are you accepting of having a non-binary individual (assigned female at birth, identifies as neither exclusively male nor female) as a partner?	19	1.000	7.000	3.789	2.463	4.000

Table 9d Descriptive Analysis for Study 2

Descriptive Analysis (Heterosexual Cis-female)

Items	N of samples	Min	Max	Mean	Std. Deviation	Median
[Q34] To what extent are you accepting of having a transgender man (who undergone female to male post-transition) as a partner?	157	1.000	6.000	2.338	1.269	2.000
[Q35] To what extent are you accepting of having a non-binary individual (assigned male at birth, identifies as neither exclusively male nor female) as a partner?	157	1.000	7.000	2.586	1.502	2.000
[Q36] To what extent are you accepting of having a non-binary individual (assigned female at birth, identifies as neither exclusively male nor female) as a partner?	157	1.000	7.000	2.618	1.500	2.000

Table 9f Descriptive Analysis for Study 2

Descriptive Analysis (Non-heterosexual Cis-female)

Items	N of samples	Min	Max	Mean	Std. Deviation	Median
[Q33] To what extent are you accepting of having a transgender woman (who undergone male to female post-transition) as a partner?	40	1.000	7.000	3.800	1.897	4.000
[Q34] To what extent are you accepting of having a transgender man (who undergone female to male post-transition) as a partner?	40	1.000	7.000	3.825	1.866	4.000
[Q35] To what extent are you accepting of having a non-binary individual (assigned male at birth, identifies as neither exclusively male nor female) as a partner?	40	1.000	7.000	4.000	1.769	4.000
[Q36] To what extent are you accepting of having a non-binary individual (assigned female at birth, identifies as neither exclusively male nor female) as a partner?	40	1.000	7.000	4.550	1.616	5.000

Gender Acknowledgement Theory and Ta pronoun

As for the questions related to Gender Acknowledgement Theory and Ta pronoun, a clear trend emerges from the responses, indicating a favorable reception towards GAT's core principles and its envisioned impact on societal perceptions of non-binary and transgender communities.

A considerable majority of participants, with 102 (25.76%) mostly agreeing and 68 (17.17%) strongly agreeing, affirm that GAT plays a crucial role in reducing discrimination against non-binary and transgender individuals (Q39). This consensus is further reinforced in Q41, where a combined total of 227 respondents (57.32%) recognize GAT as a comprehensive and insightful framework for navigating the complexities of gender diversity, underlining the theory's robustness in addressing gender identity nuances.

The readiness to adopt GAT's gender acknowledgment framework (Q42) is notable, with 114 (28.79%) mostly agreeing and 69 (17.42%) strongly agreeing, showcasing the respondents' openness to a nuanced understanding of gender. This is complemented by the belief in GAT's capability to foster social recognition for non-binary and transgender groups (Q43), as evidenced by 123 (31.06%) mostly agreeing and 70 (17.68%) strongly agreeing with the statement.

Support for the "Ta" pronoun (Q45) as a convenient and inclusive linguistic tool garners significant backing, with 124 (31.31%) mostly agreeing and 104 (26.26%) strongly agreeing on its appropriateness. This demonstrates a shift towards embracing a language that universally accommodates gender diversity. Preferences for GAT's gender expression framework over traditional binary labels (Q46, Q47) further signify a move towards a more inclusive understanding of gender, with a substantial number of respondents favoring this approach.

Analyzing the mean scores and median values across these questions reveals a pronounced lean towards endorsing GAT's principles, particularly highlighted by the mean score of 5.540 and a median of 6 in Q45, signaling strong support for the "Ta" pronoun. Such data underscore the collective readiness to integrate GAT's nuanced gender models into societal norms, recognizing the equal importance of gender expression and biological sex (Q48) with a mean score of 5.404 and a median of 6.

Table 9g Descriptive Analysis for Study 2

Descriptive Analysis							
Items	N of samples	Min	Max	Mean	Std. Deviation	Median	
[Q39] To what extent do you agree with the statement: "I believe the GAT theory helps in eliminating discrimination against non-binary and transgender groups."	396	1.000	7.000	5.184	1.290	5.000	
[Q41] To what extent do you agree with the statement: "I believe the GAT theory provides an acceptable framework for understanding gender diversity that helps me to better understand it."	396	1.000	7.000	5.525	1.243	6.000	
[Q42] "As a male in terms of biological sex and gender identity, I am willing to use GAT to acknowledge my gender in the form of male + ultra masculine/masculine/mild masculine...or As a female in terms of biological sex and gender identity, I am willing to use GAT to acknowledge my gender in the form of female + ultra feminine/feminine/mild feminine..."	396	1.000	7.000	5.091	1.490	5.000	
[Q43] To what extent do you agree with the statement: "I believe the GAT theory effectively promotes social recognition of non-binary/transgender groups."	396	1.000	7.000	5.260	1.297	5.000	
[Q44] To what extent do you agree with the statement: "I consider the GAT an important step in the development of gender equality, including for non-binary and transgender groups."	396	1.000	7.000	5.303	1.273	5.000	
[Q45] To what extent do you agree with the statement: "The gender-neutral pronoun 'Ta' provided by GAT is convenient and appropriate. I am willing to use 'Ta' instead of 'he/she' to refer to others, including non-binary/transgender individuals."	396	1.000	7.000	5.540	1.273	6.000	
[Q46] To what extent do you agree with the statement: "I prefer to use GAT's framework of 'male + feminized/female masculinized'... expressions to refer to non-binary and transgender groups, rather than non-binary expressions such as 'they/them'."	396	1.000	7.000	5.058	1.381	5.000	
[Q47] To what extent do you agree with the statement: "I prefer to use GAT's framework of 'male + feminized; female + masculinized'... expressions to refer to non-binary and transgender groups, rather than traditional expressions of male/female."	396	1.000	7.000	5.066	1.387	5.000	
[Q48] To what extent do you agree with the statement: "I am willing to update my understanding of gender through GAT, recognizing that gender expression is as important as biological sex."	396	1.000	7.000	5.404	1.286	6.000	

Study 3***Data Exclusion and Implications***

In this study, out of the total attempted responses, 4109 samples were deemed invalid, leaving 388 valid samples for analysis. The primary reasons for exclusion encompassed a range

of factors, beginning with 160 participants who did not consent to the informed consent form (Q1).

A combined total of 39 samples were invalidated due to reluctance or failure to engage with conceptual reading questions (Q2: 37, Q13: 1, Q14: 1), indicating a potential lack of interest or understanding in the foundational concepts presented.

Age-related exclusions accounted for 36 samples, specifically targeting individuals under 18, ensuring the survey's focus on a legally adult population. A significant portion, 2107 samples, were excluded for not aligning with the survey's target demographic of transgender men, transgender women, or non-binary individuals (Q4), highlighting the study's specific focus on these gender identities. Timeouts, both detected by backend monitoring (930 samples) and page countdowns (3 samples), along with 26 samples invalidated due to inconsistent birth dates, underscored technical and attentiveness challenges within the survey process.

Trap questions designed to assess comprehension and earnest engagement with the survey led to an additional 807 invalid samples. These included 220 samples invalidated over misunderstanding of non-binary gender concepts (Q11), 288 over transgender concepts (Q12), and 214 over misunderstandings of the Gender Acknowledgment Theory (GAT) (Q17). Further exclusions stemmed from incorrect responses to additional trap questions focusing on transgender (Q24: 25 samples, Q26: 43 samples) and non-binary concepts (Q28: 17 samples).

The high rate of invalidity due to trap questions, which was twice the number of valid samples, indicates a profound challenge. It suggests not only a possible lack of engagement or comprehension of provided conceptual readings but also reflects a broader societal issue: the significant gap in gender and sexual education in China, particularly around gender minority concepts. Even within a population specifically belonging to transgender and non-binary groups,

the failure to understand these concepts accurately, as demonstrated by the high invalidation rate, underscores the urgent need for widespread education and knowledge dissemination on gender and sexual diversity. This gap presents a crucial challenge for the social acceptance and recognition of gender minorities, highlighting the essential role of academic research in translating into broader societal understanding, acceptance, and inclusion.

The implications of this data exclusion process are profound. They not only reflect on the survey's methodological rigor in ensuring relevant and thoughtful participation but also shine a light on the critical need for enhanced gender education. The difficulties faced by participants in comprehensively grasping gender concepts, even after being provided with reading material, indicate a significant gap in understanding that extends beyond the academic realm into broader societal consciousness. This underscores the imperative for targeted educational initiatives and public awareness campaigns designed to bridge these knowledge gaps, fostering an environment where gender diversity is recognized, understood, and accepted across all levels of society.

Demographic Information

The demographic information was derived from 388 valid responses, showcasing a diverse snapshot of non-binary, transgender male, and transgender female participants from mainland China. The age distribution indicates a young demographic, with a majority of participants aged between 18-26 years old (64.69%), followed by the 27-30 years old group (18.04%), showcasing the youth-centric nature of the study's respondents.

Gender identity representation was significantly varied, emphasizing the study's focus on transgender and non-binary individuals. Transgender females constituted 22.76% of the sample, transgender males accounted for 23.45%, and a substantial 42.78% identified as non-binary, highlighting the diversity within gender experiences among the participants.

Occupationally, the majority were employed (63.40%), with a significant portion of students (34.54%), reflecting an active engagement from both the academic and working populations. Educational attainment among participants was high, with the bulk holding Bachelor's degrees (69.07%), followed by those with Master's degrees (11.86%), indicating a well-educated cohort.

Sexual orientation data revealed a broad spectrum of identities, with bisexuals making up the largest group (39.18%), followed by homosexuals (22.94%), and heterosexuals (12.11%). This distribution underscores the complex interplay between gender identity and sexual orientation within the study's demographic.

Religious beliefs predominantly skewed towards no religious affiliation (85.31%), with smaller representations from Buddhism (7.99%), Christianity (3.09%), and other religions, reflecting a secular inclination among the participants.

This demographic breakdown provides a comprehensive overview of the study's participants, reflecting the diverse and multifaceted nature of the non-binary and transgender communities in mainland China.

Beliefs on What Determines Gender

An overwhelming majority of participants, accounting for 65.98%, endorsed the view that gender is a construct determined by an amalgamation of both biological and psychological aspects. This perspective is particularly noteworthy given the diverse gender identities of the respondents, including non-binary, transgender male, and transgender female individuals. This consensus significantly signals a nuanced understanding of gender beyond mere psychological or biological determinants.

A smaller yet significant portion of the cohort, 30.93%, viewed psychological aspects—encompassing self-identification and individual experience—as the sole determinants of gender. This highlights a considerable emphasis on the subjective and self-perceived aspects of gender identity within the study's demographic.

Conversely, only a marginal 3.09% of participants adhered to the traditional viewpoint that gender is strictly defined by biological factors, such as genitalia and hormones. This minimal adherence underscores a progressive shift away from conventional gender norms towards a more inclusive and comprehensive understanding of gender as a complex interplay between biology and psychology.

These findings illuminate a broad consensus among non-binary and transgender groups that gender cannot be confined to binary biological classifications. Instead, it is a multifaceted concept shaped by both innate characteristics and individual self-perception. The prevalent acknowledgment of both biological and psychological aspects in determining gender corroborates the need for approaches like GAT, which aim to embrace and validate the wide spectrum of gender expressions existing within society.

Participants' Attitudes Towards GAT's Role in Reducing Social Discrimination and Enhancing Social Recognition, Communication, and Understanding

The data presents a compelling insight into the attitudes of non-binary and transgender groups towards the Gender Acknowledgement Theory (GAT) and its perceived impact on reducing social discrimination and fostering social recognition, communication, and understanding. The participants' responses indicate a predominantly positive reception of GAT's potential to address these critical issues.

Reducing Discrimination Against Non-Binary and Transgender Groups

A significant majority of the participants express agreement that GAT contributes to eliminating discrimination against non-binary and transgender groups, with 34.79% mostly agreeing and 18.56% strongly agreeing with this assertion. This suggests a strong belief in GAT's effectiveness in creating a more inclusive and accepting social environment for gender-diverse individuals. The mean score of 5.443 on this item, with a median of 6, further underscores the optimistic viewpoint of the participants towards GAT's role in combating discrimination.

Comprehensive Framework for Understanding Gender Diversity

Similarly, the perception of GAT as a comprehensive and inclusive framework for understanding gender diversity garners substantial support, with 40.98% mostly agreeing and 27.06% strongly agreeing. This indicates a recognition of GAT's potential to provide a holistic understanding of gender, acknowledging the complexity and fluidity of gender identities beyond the binary paradigm. The mean score of 5.799 reflects the participants' confidence in GAT as an effective tool for enhancing awareness and acceptance of gender diversity.

Willingness to Communicate Using GAT Framework

When it comes to communicating through the GAT framework with individuals who adhere to traditional binary gender representations, a notable portion of participants shows willingness, provided both parties recognize GAT. This is evident from 37.63% mostly agreeing and 21.91% strongly agreeing with the statement, highlighting the perceived utility of GAT in bridging understanding between diverse gender perspectives. The mean score of 5.572 indicates a positive inclination towards using GAT as a platform for dialogue and mutual recognition.

Improving Communication and Understanding

The strongest agreement emerges in response to the potential of GAT to improve communication and understanding when both parties recognize the theory. An impressive

33.76% mostly agree, and 38.14% strongly agree that GAT can enhance interpersonal interactions by providing a common framework for discussing and acknowledging gender diversity. The mean score of 5.979, with a median of 6, signifies the highest level of consensus among participants regarding GAT's role in fostering better communication and understanding.

In conclusion, the attitudes of non-binary and transgender participants towards GAT reflect a profound belief in its capacity to diminish social discrimination, provide a comprehensive framework for understanding gender diversity, facilitate communication between diverse gender identities, and ultimately enhance social recognition and understanding. These findings underscore the importance of GAT as a transformative approach in the ongoing efforts to achieve greater inclusivity and acceptance for gender-diverse individuals within society.

Table 10a Descriptive Analysis for Study 3

Descriptive Analysis							
Items	N of samples	Min	Max	Mean	Std. Deviation	Median	
[Q15] To what extent do you agree with the following statement: “I believe GAT helps to eliminate discrimination against non-binary and transgender groups.”	388	1.000	7.000	5.443	1.218	6.000	
[Q16] To what extent do you agree with the following statement: “I believe GAT is a comprehensive and inclusive framework for understanding gender diversity.”	388	2.000	7.000	5.799	1.062	6.000	
[Q29] To what extent do you agree with the following statement: “I am willing to communicate through the GAT framework with those who insist on traditional binary gender representations, provided that both parties recognize GAT.”	388	1.000	7.000	5.572	1.189	6.000	
[Q30] To what extent do you agree with the following statement: “When both parties recognize GAT, I believe using the GAT framework can help me improve communication and understanding with others.”	388	1.000	7.000	5.979	1.071	6.000	

Participants' Attitudes Towards Using GAT for Gender Acknowledgment

The responses gathered regarding participants' attitudes towards utilizing Gender Acknowledgment Theory (GAT) to acknowledge their gender, reflect its compatibility with their

gender and expression, and consider it as an alternative to traditional binary and non-binary gender representations, illuminate a progressive acceptance and willingness among non-binary and transgender groups.

Willingness to Use GAT for Gender Acknowledgment

A substantial portion of the participants demonstrates a positive inclination towards using GAT to acknowledge their gender, with 37.11% mostly agreeing and 24.74% strongly agreeing to do so. This reveals a significant level of comfort and identification with GAT as a means to articulate their gender identity. The mean score of 5.541, with a median of 6, suggests a favorable consensus towards GAT as an effective tool for gender acknowledgment.

GAT Reflecting Gender and Expression

Participants also perceive GAT as a more accurate reflection of their gender and gender expression compared to non-binary expressions. This sentiment is strongly supported, with 33.76% mostly agreeing and 25.77% strongly agreeing. The mean score of 5.582 indicates a recognition of GAT's potential to encompass a broader spectrum of gender identities and expressions, providing a comprehensive framework that resonates with their lived experiences.

GAT as an Alternative to Traditional Binary Representations

The willingness to embrace GAT over traditional binary gender representations is similarly evident, with 37.37% mostly agreeing and 24.23% strongly agreeing. This underscores a desire among participants to move beyond the binary construct towards a more inclusive and flexible understanding of gender, highlighted by a mean score of 5.588. It reflects a broader societal shift towards acknowledging the fluidity and diversity of gender identities.

Using GAT as a Replacement for Non-Binary Representations

When considering GAT as a replacement for non-binary gender representations, participants exhibit a nuanced stance. While a significant number show support, with 28.35%

mostly agreeing and 24.23% strongly agreeing, there is a noted diversity in responses, as indicated by a mean score of 5.371. This suggests that while GAT is seen as a valuable addition to the discourse on gender identity, its role as a complete replacement for non-binary representations may require further exploration and acceptance within the community.

In conclusion, the data highlights a strong willingness among non-binary and transgender participants to utilize GAT as a tool for gender acknowledgment and expression. It demonstrates GAT's potential to serve as a comprehensive and inclusive framework that resonates with the diverse experiences of gender identity, offering a meaningful alternative to both traditional binary and non-binary gender representations. These findings reinforce the importance of continuing to develop and refine GAT as a pivotal resource in the ongoing endeavor to achieve greater recognition, understanding, and acceptance of all gender identities within society.

Table 10b Descriptive Analysis for Study 3

Descriptive Analysis							
Items	N of samples	Min	Max	Mean	Std. Deviation	Median	
[Q18] To what extent do you agree with the following statement: "I am willing to use GAT to acknowledge my gender."	388	1.000	7.000	5.541	1.368	6.000	
[Q19] To what extent do you agree with the following statement: "I believe GAT reflects my gender and gender expression more accurately than non-binary expressions."	388	1.000	7.000	5.582	1.284	6.000	
[Q20] To what extent do you agree with the following statement: "I am willing to use GAT instead of traditional binary gender representations."	388	1.000	7.000	5.588	1.233	6.000	
[Q21] To what extent do you agree with the following statement: "I am willing to use GAT as a replacement for non-binary gender representations."	388	1.000	7.000	5.371	1.407	6.000	

Attitudes Toward the Use of the "Ta" Pronoun Among Non-Binary and Transgender Participants

The survey results reveal a predominantly positive attitude among non-binary and transgender participants towards the use of the "Ta" pronoun as a non-gendered option for everyone, and its application in daily interactions. The "Ta" pronoun, introduced as a universal, gender-neutral term, has garnered significant acceptance and willingness for use among the surveyed groups.

Suitability of the "Ta" Pronoun for Everyone

A substantial majority of participants view the "Ta" pronoun as a suitable non-gendered pronoun for everyone, with 42.01% strongly agreeing and 32.47% mostly agreeing with this statement. This reflects a broad consensus on the appropriateness of "Ta" as an inclusive, universal pronoun, highlighted by a high mean score of 5.941, indicating strong support for its widespread adoption.

Personal Use of the "Ta" Pronoun

When considering the personal adoption of the "Ta" pronoun in daily life, there's a notable inclination towards its use, with 30.93% strongly agreeing and 32.99% mostly agreeing to embrace "Ta" as their pronoun. This suggests a readiness among participants to incorporate "Ta" into their personal identity expression, further evidenced by a mean score of 5.585.

Addressing Non-Binary and Transgender Individuals with "Ta"

The willingness to use the "Ta" pronoun to address non-binary and transgender individuals in daily interactions is particularly strong, with 39.19% strongly agreeing and 34.79% mostly agreeing. This underscores the perceived utility and acceptance of "Ta" in respectfully acknowledging diverse gender identities, as indicated by a mean score of 5.956.

Using "Ta" for Individuals with Aligned Biological Sex and Gender Identity

While there's still support for using "Ta" to refer to individuals whose biological sex and gender identity are aligned, the agreement levels are slightly lower compared to other

applications, with 19.85% strongly agreeing and 29.38% mostly agreeing. The mean score of 5.152 suggests a more cautious approach to applying "Ta" in these contexts, possibly reflecting considerations of personal and societal readiness for such a broad application of a gender-neutral pronoun.

In summary, the attitudes of non-binary and transgender participants towards the "Ta" pronoun are overwhelmingly positive, with strong support for its use as a non-gendered pronoun for everyone, in personal identity expression, and in addressing others, irrespective of their gender identity. This receptiveness to "Ta" indicates a significant step forward in promoting inclusivity and respect for gender diversity in daily communication.

Table 10c Descriptive Analysis for Study 3

Descriptive Analysis							
Items	N of samples	Min	Max	Mean	Std. Deviation	Median	
[Q22] To what extent do you agree with the following statement: "I think the 'Ta' pronoun is a suitable non-gendered pronoun for everyone."	388	1.000	7.000	5.941	1.269	6.000	
[Q23] To what extent do you agree with the following statement: "I am willing to use the 'Ta' pronoun as my pronoun in daily life."	388	1.000	7.000	5.585	1.459	6.000	
[Q25] To what extent do you agree with the following statement: "I am willing to use the 'Ta' pronoun to address non-binary and transgender individuals in daily life."	388	1.000	7.000	5.956	1.184	6.000	
[Q27] To what extent do you agree with the following statement: "I am willing to use the pronoun "Ta" in everyday life to refer to individuals whose biological sex and gender identity are aligned."	388	1.000	7.000	5.152	1.550	5.000	

Discussion

Firstly, this paper presents a clear definition of social recognition and distinguishes it from social acceptance. This distinction is crucial in academic discourse, as sexual orientation minorities do not encounter issues related to social recognition, whereas gender minorities do.

Secondly, this study is pioneering in investigating societal attitudes towards non-binary and transgender individuals within the context of Mainland China. This adds an important dimension to international academic discourse, where existing research on transgender and non-binary identities has predominantly focused on Western cultures, such as the United States. With China's population exceeding 1.4 billion, the voices from this region, especially those of transgender and non-binary communities, should not be overlooked by the world or the international academic community. The first national survey on suicidal tendencies among transgender groups in China conducted in 2019 indicates that data from China have only recently begun to be published in international journals. There's a need for more data and voices from non-Western countries in academic research.

Moreover, this paper is the first to propose the Gender Acknowledgment Theory (GAT) and empirically investigate attitudes towards GAT and the "Ta" pronoun (although the "Ta" pronoun itself is not a new introduction in this paper).

From the data of Studies 1 and 2, we can conclude that social recognition in the United States over the eight years (2016-2023) has been extremely polarized. Conversely, in China (among the cisgender population aged 36-42), the data on social recognition appears neutral to slightly negative. In terms of social acceptance, the United States has seen progress in certain areas, especially legislation, over the same period. Additionally, younger demographics in the U.S. generally exhibit higher levels of social recognition and acceptance. The data from China on social acceptance appears neutral. However, the acceptance of non-binary pronouns in China is higher than in the U.S., possibly due to the phonetic uniformity of Chinese pronouns for he/she/it, which do not differ in spoken language. This suggests a method to improve recognition of non-binary/transgender individuals: adopting a universal pronoun in languages, reducing

gender disputes and respecting all individuals, including non-binary/transgender communities. Overall, the data from China is neutral, neither strongly supportive nor opposed, while the data from the U.S. shows polarization. Thus, both China and the U.S. need to improve social recognition and acceptance, necessitating the introduction of GAT.

Studies 2 and 3 examined attitudes towards GAT and the "Ta" pronoun from both cisgender and non-binary/transgender perspectives, revealing clear support from both sides, especially among cisgender individuals willing to update their understanding of gender. The data from these studies confirm that GAT can effectively improve social recognition of non-binary/transgender groups, serve as educational material to promote understanding of gender diversity, and act as a bridge for communication between those adhering strictly to binary gender concepts and non-binary/transgender communities.

Comparing data from Studies 1 and 2, we find that the U.S. data, when presented with only two options (whether someone's gender is determined by the sex assigned at birth or not), appears extremely polarized. In contrast, Chinese data, when provided with a third option (both biological and psychological aspects), shows that both non-binary/transgender groups and cisgender groups can largely reach a consensus, with the majority choosing the third option. This suggests that future research could expand the range of possible options, as people's views may not strictly adhere to either psychological/social or biological determinism. The Chinese data strongly supports the introduction of the GAT framework.

Furthermore, our research finds a significant gap between academic research conclusions and societal consensus on gender, especially non-binary/transgender identities. In the U.S., this is manifested in extreme polarization between traditionalism and academic/scientific

understanding. In China, it's more about a lack of understanding or clarity about academic research on non-binary/transgender identities, even after reading relevant materials.

Lastly, considering the current situation and the significant societal disputes brought about by treating sex and gender as separate concepts, the introduction of GAT is necessary. We must also consider alternative solutions: could we combine biological sex and social gender into a single concept of gender, rather than treating them as completely separate? How can academic research be better translated into societal understanding in the absence of widespread academic consensus? How can transgender/non-binary individuals gain broader societal recognition and acceptance?

Limitations and Future Directions

A notable limitation of the Gender Acknowledgment Theory (GAT) concerns transgender individuals who have not undergone gender-affirming surgery or hormone treatment. Under the GAT framework, these individuals are constrained to identify as biologically male + feminine or biologically female + masculine to acknowledge their gender. This is because GAT specifically addresses parts of the transgender community that have undergone physiological changes through surgery or hormone treatments. Consequently, individuals may feel that GAT does not adequately represent their gender identity. In such cases, it is proposed that expressions like transgender male (not yet biologically transitioned) + feminine, or transgender female (not yet biologically transitioned) + masculine could be used. Alternatively, individuals may choose to solely utilize gender identity to express and identify their gender without employing the GAT framework. Given that GAT is an alternative theoretical framework, individuals should embrace the mode of expression that feels most authentic to them. GAT can be used alongside gender identity, independently, or not at all, with everyone having the freedom to choose their preferred

method of expression. Additionally, while GAT's gender expressions are on a spectrum, the associated terms are currently limited, predominantly to masculine or feminine. Future endeavors could involve creating more personalized terms for gender expression that better resonate with individuals' identities.

This paper has focused on attitudes towards GAT within the context of China. Future research should explore the reception of GAT in other cultural or national contexts to gain a broader understanding of its applicability and acceptance worldwide.

The introduction of the pronoun "Ta" represents a novel approach to gender-neutral language, potentially serving as a singular form of "they" in English, in addition to its use in Chinese. However, the adoption of "Ta" beyond the Chinese linguistic context may pose challenges. Future studies could consider devising a universally applicable third-person pronoun tailored to each language's specific characteristics or attempt to promote the "Ta" pronoun in other languages to see if a consensus can be reached. Regardless of the approach, the primary goal should not be to create an exclusive pronoun for non-binary communities but to eliminate gender representation at the pronoun level. If a universally applicable pronoun is established, it could encompass all individuals, fostering a more inclusive environment.

Conclusion

The introduction of GAT represents a significant step forward in the journey towards the understanding and integration of TGNB individuals within society. GAT not only offers a theoretical framework but also serves as a practical guide to enhance the recognition and integration of gender diversity across different societal spectrums. By acting as an educational tool, GAT enlightens and informs the general populace about the complexities of gender diversity, promoting a shift from mere awareness to genuine acknowledgment and appreciation

of TGNB identities. This educational aspect is fundamental in bridging academic discourse with everyday societal interactions and perceptions.

Moreover, GAT facilitates dialogue and communication between those adhering to traditional binary gender views and members of the TGNB community, providing a common language and framework that allows for more empathetic and informed conversations. This communication bridge is crucial for reducing misunderstandings and fostering a more inclusive environment where diverse gender identities can coexist. Importantly, GAT also encourages cisgender individuals to participate, enhancing mutual understanding with TGNB communities.

The implementation of GAT promotes the social recognition of TGNB individuals, challenging societal norms and legal frameworks to adapt and embrace gender diversity. This leads to policies and practices that ensure TGNB individuals are not just accepted but recognized, supported, and protected within various social structures.

However, it's important to acknowledge the limitations of previous scales used to measure attitudes towards TGNB individuals. Specifically, these scales often did not use a 7-point Likert scale, potentially failing to capture the views of those with neutral positions adequately. Furthermore, the binary options provided for questions about what determines gender may have exaggerated the appearance of polarized views. To address these issues, Studies 2 and 3 in this research utilized a 7-point Likert scale and offered three options for what determines gender, aiming to capture a broader range of perspectives.

In terms of social recognition, the United States shows extreme polarization, with recent trends indicating increasingly negative attitudes towards gender diversity. Conversely, social acceptance in the U.S. appears relatively more positive. Data from China indicates a neutral stance towards social recognition, with negativity primarily concerning children. Social

acceptance is also relatively neutral to positive. However, the high volume of invalid samples in Study 2 suggests that the Chinese data may only reflect the attitudes of a highly educated demographic aged 36-42, considering that only about 15.13% of the Chinese population had a tertiary education in 2021 (National Bureau of Statistics, May 2021). This suggests that the general Chinese public's attitudes towards TGNB individuals may be significantly more negative than this study indicates. Nevertheless, with the enhancement of education, sexual education, and the implementation of GAT, there is hope for a more positive future.

In summary, GAT marks a significant advancement in unifying gender perspectives, providing both theoretical insights and practical applications to enhance the visibility, recognition, and acceptance of TGNB individuals globally. By acknowledging and celebrating the complexity and fluidity of gender, GAT contributes to a future where gender diversity is recognized as an integral part of human experience, fostering a society where every individual, regardless of their gender identity, is acknowledged, valued, and celebrated.

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