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The Effects of Stigmatization on Interpersonal Interactions of Stigmatized Individuals

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Date: 2020-12-04T21:51:19+00:00

Abstract

Stigma refers to undesirable characteristics possessed by an individual, which cause the individual to be negatively labeled, belittled, and insulted by mainstream cultural groups in certain social contexts, thereby undergoing stigmatization. Stigmatization exerts negative effects on individuals or groups themselves, not only subjecting individuals to external influences that directly affect them, such as discrimination, exclusion, or rejection from others, but also further negatively affecting the performance and behavioral responses of stigmatized individuals in interpersonal interactions. The negative interactions between stigmatized individuals and mainstream cultural groups further intensify the exclusion of stigmatized individuals or groups by mainstream culture, creating a vicious cycle. From the perspective of stigmatized individuals, it facilitates a more in-depth exploration of the impact of stigmatization on their interpersonal interactions and the coping strategies they adopt.

Full Text

Preamble

The effect of stigmatization on interpersonal interactions of stigmatized individuals

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Abstract

Stigma refers to an individual's unwelcome characteristics, which always lead people to be devalued and discriminated in some given societies and brings lots of negative consequences on an individual's daily life. Stigmatization not only will make individuals involved in discrimination, exclusion, or rejection coming from others but also will further negatively affect their performance and behavioral responses in interpersonal interactions. These negative interactions between the stigmatized individuals and the mainstream cultural groups will further aggravate the stigmatization, forming a vicious circle. From the viewpoint of stigmatized individuals, it is helpful to explore the negative effect of stigmatization on their interpersonal interactions and the coping strategies.

Keywords: stigma; interpersonal interactions; discrimination; coping strategies

Introduction

In 1963, Goffman introduced the concept of stigma, defining it as undesirable, distinctive, defective, or shameful characteristics that are not accepted by mainstream culture. Characteristics such as homosexuality, transgender identity, disability, and mental illness function as marks of shame that transform individuals from being "perfect" to having a "spoiled identity" [1]. Others often view these "spoiled" individuals negatively and tend to define them using adverse characteristics associated with their stigma. For instance, when mentioning individuals with mental illness, many people assume they are violent and dangerous, when in fact not all patients exhibit extreme mania; many are fully functional. This process of attaching negative labels constitutes stigmatization [1]. While stigma appears similar to stereotypes, the latter may contain positive components, whereas stigma is essentially a negative stereotype—a derogatory and insulting label applied to certain individuals or groups within a specific social context [2]. Moreover, these negative stereotypes about stigmatized groups are endorsed and shared by members of the mainstream cultural group, which explains why stigmatized individuals become widely marginalized [3].

The essence of stigmatization lies in viewing individuals with particular characteristics through a negative lens, whereas discrimination extends beyond negative attitudes to include direct negative behaviors toward the targeted individuals [4,5]. Although stigmatization may not appear as overtly negative as discriminatory behavior, its impact on stigmatized individuals is far more profound than commonly imagined. Individuals or groups possessing devalued characteristics become unaccepted or unaccommodated by mainstream cultural groups, passively receiving negative attitudes, covert unfair treatment, insults, and degradation, ultimately experiencing isolation, rejection, and exclusion. Such experiences contradict the fundamental human need for acceptance and belonging [6] and produce far-reaching negative consequences. Research indicates that the effects of stigma are associated not only with individual mental health and ill-

ness [7] but also with social interactions, leading to or exacerbating numerous adverse outcomes such as poverty and loss of employment opportunities [3].

Previous research has primarily focused on the characteristics that lead to stigmatization—such as race, illness, disability, and sexual orientation [8]—and on how mainstream cultural groups negatively treat stigmatized individuals. Some studies have also examined how stigmatization affects specific illnesses (e.g., mental disorders) [8,9]. However, few have investigated, from the perspective of stigmatized individuals themselves, how experiences of being stigmatized subsequently affect their interpersonal interactions. Interpersonal interaction represents the fundamental means through which individuals transmit information and exchange emotions with others, encompassing various forms of human interaction such as communication and cooperation [10]. It serves as an essential mechanism for establishing connections with others and society and plays a vital role in people's lives. This paper adopts the perspective of stigmatized individuals to examine the negative effects of stigmatization on their interpersonal interactions.

2 The Impact of Stigmatization on Interpersonal Interactions

Experiences of being denigrated and discriminated against due to one's stigmatized characteristics affect self-perception and self-evaluation, leading to negative self-concepts and triggering concerns about future stigmatization. These negative self-concepts and expectations foster distrust, anxiety, and other negative emotions during interpersonal interactions, further causing individuals to remain vigilant and hostile in information transmission and emotional exchange, and ultimately producing avoidance and withdrawal behaviors.

2.1 Negative Self-Concept

Self-concept represents a collection of beliefs about oneself [11,12]—an individual's self-cognition that deepens through experience, reflection, and feedback from others [13]. Negative self-concept often manifests as self-neglect, self-blame, and self-hatred [14,15]. Self-concept correlates with social interaction [16], and negative self-concept affects individuals' social interactions and relationships [17]. For stigmatized individuals, even when stigmatized characteristics can be concealed, they still impact psychological states. Over time, high levels of stigma-related social exclusion lead to lower self-esteem [18], and when stigmatized individuals encounter negative stereotypes about themselves, they feel ashamed of their characteristics [19]. Long-term negative treatment from others regarding their stigmatized characteristics leads individuals to perceive such reactions as justified, directly affecting self-related concepts such as reduced self-worth and self-efficacy, and generating negative self-conscious emotions. These negative self-cognitions further influence self-perception [19,20]. For example, Preciado et al. (2013) manipulated external evaluations of same-

sex behavior to examine how stigmatization affects self-perceived sexual orientation among LGBT individuals [21]. The study found that compared to conditions rejecting same-sex behavior, participants in supportive conditions reported greater same-sex interest and higher evaluations of same-sex attractiveness. Research on weight stigma has similarly found that overweight individuals often perceive lower mate value in romantic relationships due to their weight [22]. These studies demonstrate that individuals with stigmatized characteristics frequently undervalue themselves across multiple domains, resulting in diminished self-perception.

Stigmatization not only triggers negative self-cognition and self-evaluation, gradually forming negative self-concepts, but also compels individuals to confirm these negative self-concepts. External negative evaluations affect stigmatized individuals' self-esteem and self-perception, potentially eliciting "self-punishment" based on negative appraisals. Hirsch et al. (2019) assessed 100 low-income adults, examining sociodemographic characteristics, the impact of economic stigma on health-related quality of life, and the mediating role of belongingness [23]. Results revealed that both economic stigma and low belongingness directly reduced mental health quality of life, and individuals experiencing economic stigma were unable to engage in interpersonal interactions to their desired extent, generating self-punitive thoughts. More severely, stigmatized individuals further confirm these negative aspects [23]. Self-theory scholars posit that individuals with negative self-views engage in behaviors that verify their negative self-concepts [24]. For instance, individuals experiencing negative events due to obesity withdraw more from work, adopt unhealthy lifestyles [25], and rely more heavily on medical care to address weight-related issues [26]. Holding negative self-views exacerbates the negative impact of stigmatization. Negative stigmatization experiences also trigger self-threat, which more readily leads to distrust, anxiety, and withdrawal behaviors in interpersonal interactions.

2.2 Negative Expectations

The impact of stigma derives not only from direct rejection by others but also from internalized expectations of rejection following labeling. Stigmatized characteristics trigger concerns about social exclusion and denigration, increasing stress [27] and impairing self-regulation [28]. These negative emotional experiences and past stigmatization lead to pessimistic predictions about the future, with individuals anticipating they will become targets of discrimination by non-stigmatized groups. For example, individuals with mental illness who have experienced stigmatization believe the public holds negative attitudes toward them and expect discriminatory treatment in subsequent interactions [29]. Blodorn et al. (2016) demonstrated that rejection expectations mediate the negative effects of weight stigma on overweight individuals [30]. Researchers had high and low BMI male and female participants deliver speeches in a dating scenario, with half told potential dating partners would watch video recordings and half told they would only listen to audio recordings. High-BMI women reported higher

rejection expectations, greater self-conscious emotions and stress, and lower self-esteem when informed their video would be viewed, whereas male participants' responses were unaffected by BMI or presentation modality. Additional research has found similar negative expectations among patients with various illnesses regarding stigma-based negative reactions, including individuals with epilepsy [31] and hepatitis B [32], confirming that stigmatized individuals develop negative expectations in social interactions based on past experiences.

These expectations of being stigmatized can be termed "stigma consciousness." Individuals with high stigma consciousness develop stigmatization predictions even without actual discrimination, causing psychological distress that undermines social interaction [33,34]. Stigmatized individuals hold stigma consciousness that can be internalized or projected onto others, reinforcing their expectations of being stigmatized [35]. Based on direct or vicarious experiences as discrimination targets, stigmatized group members tend to share their experiences, beliefs, expectations, and potential impacts. Such discussions increase awareness of how they are negatively stereotyped, but individuals vigilant about discrimination may actually intensify their anxiety and fear through these exchanges. These potential threats and fears may further increase anxiety in subsequent social activities [35], potentially leading to perceived discrimination in the future [19]. In ambiguous situations, individuals tend to anticipate unfair treatment and becoming targets of discrimination. This internalized stigma reflects individuals' acceptance of negative beliefs about their characteristics and represents a genuine source of stress and anxiety [37]. Moreover, these negative expectations are not merely conscious; they elicit physiological responses. Blascovich et al. (2001) found that stigmatized individuals interacting with non-stigmatized others exhibited threat-related physiological response patterns (e.g., cardiovascular reactivity, including significant changes in VC, CO, and TPR) and performed worse behaviorally compared to non-stigmatized individuals [38]. These stigma-threat-related physiological responses further demonstrate that the impact of stigmatization on stigmatized individuals is objectively real [38]. When stigmatized individuals perceive discrimination and rejection as pervasive and chronic, they accept it passively and cease actively seeking improvement [39], leaving them trapped in a persistent negative cycle.

2.3 Withdrawal Behavior

Stigmatization also leads to withdrawal behaviors in social interactions. Researchers have found that past stigmatization experiences (e.g., rejection) reduce self-efficacy, resulting in negative, withdrawn behaviors in subsequent interpersonal interactions [21]. Past experiences of shame promote escape from interpersonal contact and avoidance of interaction with others. Studies on illness-related stigma have found that patients with potentially stigmatizing conditions often experience internalized stigma, manifesting alienation and social withdrawal [40]. For example, media reports of abnormal behaviors among individuals with mental disorders create shame, causing them to fear ridicule and social

rejection, which in turn deters them from seeking mental health treatment and prompts avoidance strategies to withdraw from social interaction [41,42]. Laboratory studies have also documented withdrawal behaviors among stigmatized individuals during interpersonal interactions. Newheiser et al. (2015) examined the impact of stigmatized characteristics on interpersonal interactions by having participants interact with a partner who held negative attitudes toward their characteristics, requiring participants to conceal their stigmatized identity. Both stigmatized and non-stigmatized participants interacted under conditions designed to: (1) avoid negative impressions by concealing the stigmatized characteristic, (2) promote positive impressions by concealing it, or (3) simply conceal it. Results showed that stigmatized participants demonstrated significantly lower engagement than non-stigmatized participants when concealing their characteristics to avoid negative impressions or promote positive ones [43]. Withdrawal behaviors resulting from stigmatized characteristics appear not only in general social interactions but even in interactions between stigmatized individuals and their family members [44], suggesting that stigmatization-induced withdrawal is relatively widespread.

This social withdrawal is associated with stigmatized individuals' negative stigma expectations; anticipated stigmatization leads to withdrawal behaviors to avoid discrimination, negatively affecting social interaction [45]. Researchers have found that the relationship between perceived public stigma and help-seeking intentions is mediated by self-stigma and attitudes. Stigmatized individuals' awareness of public stigma fosters self-shame, which influences attitudes toward seeking help and ultimately affects help-seeking intentions. Moore and Tangney (2017) examined the relationship between stigma expectations and social withdrawal among inmates, assessing stigma expectations before release (Time 1), social withdrawal three months post-release (Time 2), and behavioral outcomes one year after release (Time 3). They found that stigma expectations during incarceration predicted post-release social withdrawal; inmates with greater stigma expectations were more likely to withdraw and feel isolated three months after release, and this withdrawal predicted mental health problems one year later [45]. Withdrawal associated with negative expectations manifests not only in interpersonal interactions but also in physiological indicators and cognitive functioning. For instance, Allen and Friedman (2016) manipulated stereotype threat versus counter-stereotype threat and found that stereotype threat caused greater vagal withdrawal and impaired working memory, reduced engagement, and poorer performance on related tasks, reflecting withdrawal from physiological to behavioral levels [46]. More severely, persistent stigmatization leads individuals to perceive unfair treatment as universal and chronic, causing them to cease actively pursuing acceptance by mainstream groups and re-establishing social connections [47]. This negative coping manifests across many aspects of social interaction. For example, Richman et al. (2016) found that compared to non-stigmatized controls, individuals rejected based on stigma showed slower response times to happy faces and poorer recognition of words related to social connection.

These results indicate that stigmatizing experiences impair detection of social acceptance signals, potentially hindering restoration of social belonging and connection [48]. Past experiences and negative expectations lead people to adopt secrecy and withdrawal strategies, which, while temporarily avoiding direct stigma-based rejection, actually further exacerbate isolation and other potential harms.

2.4 Hostile Behavior

Stigmatization is associated with negative emotional responses, with stigmatized individuals typically experiencing heightened negative emotions and reduced positive emotions that subsequently affect their interpersonal activities [49]. Discrimination from mainstream culture makes stigmatized individuals aware that they may suffer discrimination and rejection from mainstream group members anytime and anywhere, and interactions between stigmatized and mainstream group members are often uncomfortable, reinforcing mutual negative perceptions [19]. This dynamic increases anxiety [50] and generates hostility toward mainstream cultural groups. Due to their stigmatized characteristics, individuals frequently perceive and experience negative feedback from others, and this repeated experience heightens rejection sensitivity [51]. Reports have identified social isolation based on stigmatized characteristics as the most important cause of youth violence [19]. In fact, high rejection sensitivity formed in early interpersonal relationships persists with accompanying anxiety, making individuals more vigilant to threats [48], more likely to detect discrimination and rejection or interpret ambiguous interpersonal situations as discriminatory, and more prone to overreacting with hostility and aggressive responses [52].

The negative impact of stigma leads to negative predictions about the future and subsequent negative coping in interpersonal interactions, affecting whether individuals enter social interactions and how they behave within them [48]. These effects manifest across many aspects of social interaction, particularly in interpersonal trust [53], a key element for sustaining ongoing interaction. Based on experiences as discrimination targets, stigmatized individuals remain vigilant about whether they face discrimination, which conflicts with trusting others [48]. Zhang et al. (2019) had participants recall past rejection experiences due to stigmatized characteristics or experience such rejection in the laboratory, then examined their performance in an interpersonal interaction game (Coin-toss game). Results showed that individuals who recalled or experienced stigma-based rejection exhibited more distrustful behavior in the interaction game compared to those rejected for other reasons [Figure 1: see original paper]. Other research has also found correlations between stigma-based rejection and distrust; for example, patients who have experienced discrimination from medical staff tend to distrust all medical personnel [54], and in service industries, greater user experiences of stigma correlate with lower reported trust and satisfaction [55]. Stigmatized characteristics lead individuals to engage in self-protection during social activities, typically holding negative views of others,

generating hostility, and even exhibiting aggressive behaviors that extend beyond those who previously discriminated against them [19] to potentially all participants in the interaction.

[Figure 1: see original paper] Proportion of participants choosing to trust their partner in the trust game under stigma-based rejection versus non-stigma rejection conditions (image modified from [53])

In summary, stigmatization not only distresses individuals and places them in negative emotional states but also leads to negative self-concepts through chronic discriminatory experiences. Persistent fear of re-stigmatization generates negative cognitions and expectations, producing a series of maladaptive behaviors including withdrawal and hostility that further impair interpersonal relationships and social interaction [Figure 2: see original paper].

[Figure 2: see original paper] Schematic diagram of the impact of stigmatization on interpersonal interactions

3 Stigma-Based Coping Strategies

The effects of stigmatization on stigmatized individuals and groups are enduring, with negative experiences based on stigmatized characteristics not improving over time [56]. Without timely targeted measures or interventions, shifts in stigma perception are unlikely to occur [57]. While reducing public stigmatization of individuals with stigmatized characteristics is undoubtedly important, helping stigmatized individuals cope with stigmatization appears to be a more urgent issue under current social conditions. When facing unfair treatment due to stigmatized characteristics, individuals can employ various strategies to cope [58].

3.1 Attribution Strategies

Attributing negative events to discrimination can mitigate the adverse effects of stigmatization. When stigmatized individuals encounter negative events, attributing them to others' discriminatory behavior rather than their own characteristics protects self-esteem and reduces negative impact. However, this attribution strategy does not fundamentally eliminate the negative effects of stigmatization and may instead affect individuals' social attributes. While attribution protects self-esteem in cases of overt discrimination, it has minimal effect on self-esteem when discrimination is subtle [3] and can reduce social belongingness [47]. Additionally, stigmatized group members can reduce comparisons and competition with non-stigmatized group members to somewhat mitigate the impact of negative feedback related to stigmatized characteristics. For example, self-handicapping can avoid or reduce competitive impacts by attributing direct comparison outcomes to external factors (e.g., illness, accidents) rather than to the stigmatized characteristic itself, thereby avoiding authentic ability assessment. However, this competition-reduction approach may simultaneously damage self-esteem [59].

3.2 Alternative Effort

Stigmatized individuals sometimes cease efforts to counter others' negative evaluations and instead reduce the negative effects of stigmatization by strengthening other aspects of themselves—an alternative effort strategy. This coping approach commonly appears in comparisons related to gender stereotypes; for instance, female participants in examinations tend to answer fewer math-related questions and focus more on verbal ability questions, effectively adopting a passive approach that tacitly accepts the stereotype [60]. Typically, individuals conclude that their performance in the denied domain no longer matters and instead strive to "compensate for deficiencies" through other areas.

Additionally, self-affirmation intervention proves effective when individuals face threatening environments. Self-affirmation theory posits that when individuals encounter psychological threats or find themselves in threatening environments, they activate self-protection systems. Affirming positive self-views and self-worth can effectively alleviate self-esteem decline caused by social exclusion and discrimination [61]. Self-affirmation intervention provides opportunities for individuals to establish their core values [62] and represents one of the most effective methods for restoring self-integrity [64], thereby helping individuals cope with the negative effects of stigmatization.

3.3 Enhancing Group Identity

Stigmatized individuals can approach others sharing the same stigmatized characteristics to collectively face these threats. Such groups can increase belongingness and provide emotional and informational support, reducing the negative impact of prejudice on self-esteem. Individuals with high group identification can reduce the impact of external discrimination by strengthening their identification with their group, whereas those with low group identification reduce discrimination's impact on self-esteem by decreasing group identification or through tacit acceptance [64,65]. Researchers have used reading materials about racial discrimination to examine stigmatization effects on Latino students, finding that after reading articles about widespread prejudice toward their ethnic group, students with initially low ethnic identification reported even lower identification, while those with initially high identification reported higher identification [66], revealing divergent effects of stigmatization on group identification. Other research using evaluations of different types of potential dating partners (mint-eaters vs. garlic-eaters, Black vs. White individuals, sexists vs. nonsexists) has examined the importance of group identity and self-protective cognition in stigmatization, finding that when stigmatized characteristics form the basis of group identity, individuals' self-protective cognition becomes activated [67]. These studies demonstrate that enhancing group identification can, in certain contexts, help individuals effectively cope with stigmatization and reduce its negative impact.

Given social media's important role in contemporary life, stigmatized individ-

uals can also turn to popular social media platforms to share their illness experiences or seek advice from others with similar health conditions to obtain psychological and physical health interventions. In fact, expression of stigmatized identity by individuals with stigmatized characteristics produces overall positive effects [68]. Patients with mental illness can, through online interactions with peer patients [69], share their stories and strategies for coping with discrimination, providing them with stronger social connections, group belongingness, and reduced stigma perception.

3.4 Contact Intervention

Although overall mental health knowledge has improved in contemporary society, many people still hold negative attitudes toward stigmatized groups. Simple publicity and education may not be the most effective approach to reducing stigmatization; more effective practical measures are needed [70], and contact intervention may represent one important method for reducing public stigma. Various forms of contact have been applied in intervention studies aimed at reducing public stigma, proving relatively effective in reducing stigma impact across attitudes, emotions, and behavioral tendencies [71]. Researchers have also developed comprehensive interventions (anti-stigma and discrimination strategies, psychoeducation, social skills training, and cognitive-behavioral therapy) to address the effects of stigmatization on clinical symptoms, social functioning, internalized stigma experiences, and discrimination among individuals with schizophrenia [72]. Practice has demonstrated that such interventions can effectively reduce negative expectations and improve stigma-coping skills, clinical symptoms, and social functioning. However, these contact interventions have limitations: they are relatively effective for certain types of stigmatized groups (e.g., individuals with mild mental illness, homosexual populations) but may not achieve similar effects for other groups (e.g., HIV carriers).

The coping strategies described above reduce stigma impact by operating at different levels and on different psychological processes. Attribution strategies and enhancing group identification primarily act at the cognitive level, reducing negative effects from a self-cognitive perspective. Alternative effort and contact intervention strategies operate more at the behavioral response level, obtaining more external positive feedback to reduce stigmatization's impact.

However, just as stigmatization exists within specific sociocultural contexts, these common coping strategies are also moderated and influenced by social culture [73], with stigmatized individuals in different cultural backgrounds showing preferences for different coping strategies. In some cultural contexts, revealing one's stigmatized characteristics to others may garner more support and reduce the possibility of overt discrimination [39]. For example, in the United Kingdom where same-sex marriage is legal, homosexual populations tend to adopt strategies of revealing their stigmatized characteristics, as public disclosure can reduce stigmatization. Conversely, in cultures where same-sex marriage is illegal, revealing stigmatized characteristics increases the likelihood of stigmati-

zation and even violence. Different cultural backgrounds may indirectly cause or intensify unfair treatment of individuals with certain stigmatized characteristics [74]. Taking Asian collectivist culture as an example, which emphasizes emotional suppression, shame avoidance, and face-saving [75], stigmatized individuals in such cultural contexts are unwilling to actively reveal their stigmatized characteristics and prefer to adopt concealment strategies or alternative efforts in other domains to avoid or reduce discrimination. Stigma coping strategies also have limitations, being influenced not only by traditional culture but also constrained by social systems. Using mental illness as an example, if a social system includes government agencies establishing comprehensive medical service systems and providing sound treatment services for such patients, this would not only benefit symptom improvement but also reduce the likelihood of overt social discrimination, making it easier for stigmatized individuals to adopt contact interventions to reduce stigmatization's impact.

4 Summary and Research Prospects

Although stigma research has received increasing attention and researchers have proposed numerous stigma coping strategies based on different theoretical orientations—such as problem-focused versus emotion-focused strategies, and engagement versus disengagement strategies [76,77]—research on how stigmatization affects interpersonal interactions and corresponding coping strategies remains underdeveloped in several respects.

First, there is a lack of assessment tools to evaluate stigmatization's impact on interpersonal interactions. While people recognize that being stigmatized and discriminated against has many negative behavioral effects, how to effectively quantify these impacts through self-report and behavioral testing requires further exploration. Although existing scales such as the Stigma-Related Rejection Scale (SRS) [78], Internalized Stigma of Chronic Pain Scale (ISCPS) [40], Affiliate Stigma Scale (ASS) [79], Stigma of Occupational Stress Scale for Doctors (SOSS-D) [80], and Coping with Disability Difficulties Scale (CDDS) [81] contain items related to how perceived stigmatization affects interpersonal interactions, these scales only reflect individuals' perceptions of unfair treatment and cannot quantify behavioral changes caused by these negative effects. Therefore, more detailed and systematic assessment tools specifically targeting stigmatization's impact on interpersonal interactions are currently lacking. Combining such assessment tools with other mental health measures to evaluate individuals' current psychological and behavioral health status could more objectively reflect the degree of stigma impact on stigmatized individuals or groups and, more importantly, indicate whether further psychological interventions are needed.

Second, research has not deeply examined the sources of stigmatization's negative effects. While many studies demonstrate that stigmatization produces numerous negative effects on stigmatized individuals, considerable controversy remains regarding the origins of these effects. The negative coping styles that accompany stigmatization may stem from attribution bias, where stigmatized

individuals attribute others' treatment to their own "shameful" characteristics rather than to others' prejudice, leading to deep self-stigmatization and self-negation [82], or attribute it to inherent unfriendliness from the external world, presupposing they will receive unfair treatment [83]. Both scenarios lead individuals into negative, defensive states that produce maladaptive interpersonal interactions. Additionally, an important aspect of exploring the sources of stigmatization's negative effects involves tracing its origins—that is, examining the social and cultural roots of stigmatization. Stigmatization exists within specific sociocultural contexts, and different cultural backgrounds can determine whether certain characteristics become stigmatized or lead to discrimination [74]. Investigating stigmatization from its origins helps explore targeted measures to fundamentally "eliminate" its negative effects.

Third, research has not deeply explored the neural mechanisms underlying stigmatization's negative effects on interpersonal interactions. The suffering that stigmatization inflicts on stigmatized individuals is not mere complaining but likely has a neurophysiological basis. Although some studies have found that bilateral amygdala and bilateral inferior frontal cortex are sensitive to stigmatization cues [84,85], these studies examine stigmatization from the perspective of non-stigmatized groups, investigating how they view stigmatized groups. Other research has found that "social pain" arising from others or social groups produces effects and responses similar to physical pain, with social and physical pain depending on similar functional systems or neural circuits to some extent. For example, the dorsal anterior cingulate cortex (dACC), closely associated with physical pain, is also significantly activated when individuals experience social exclusion [86]. Based on these internal connections, we can reasonably hypothesize that stigmatization's impact on interpersonal interactions may also manifest through changes in certain neural functions. For groups with clearly stigmatized characteristics, stigmatization represents a primary source of social pain. Deep exploration of these neural mechanisms will contribute to understanding the psychological and neural mechanisms of social pain, provide important insights into the psychological processes of stigmatized individuals, and ultimately help them effectively and selectively choose and implement measures to fundamentally improve the negative impact of stigmatization on social interaction.

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Author Contributions:

ZHANG Ming: Drafted the manuscript; MU Yan, ZHANG Yuqi, KONG Yazhuo: Revised the final version.

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

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