

The Rising Importance of Psychological Inflexibility: Concepts, relationships, and future research trends: A systematic review.

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Abstract

Background/aim: Psychological inflexibility is defined as the inadaptability to plan long-term goals, engage in behaviours aligned with one's values, and inadaptability for changing conditions. It can contribute to a wide range of psychological ill-being and mental health issues. Although it has been broadly investigated, no review has specifically explored the associations between psychological inflexibility and various psychiatric disorders, nor the magnitude of influencing daily-life activities.

Purpose of the study: This review is a part of PhD thesis in clinical psychology, aimed to develop and apply a new psychometric scale for measuring psychological inflexibility

Material and methods: To fill this gap, this review provides a comprehensive assessment of the different aspects of psychological inflexibility through synthesizing findings from more than 100 recent studies. It investigates the ongoing debate surrounding the definition of psychological inflexibility and explores its role in the development and exacerbation of psychological disorders.

Results: Findings suggest that psychological inflexibility in research is strongly associated with higher levels of psychological disorders that have substantial impact on various aspects of daily activities, which are strongly related to the impact of the six core domains of psychological inflexibility.

Conclusion: Given its significant impact on psychological well-being and daily life functioning, further future studies are essential to increase our knowledge across different populations and various age groups and help provide insights for new therapeutic modalities to improve psychological health.

Key Words: Psychological inflexibility; psychological disorders; well-being; anxiety; demographic data; gender; socio-economic status; employment; education.

Significant statement: This study confirmed that psychological inflexibility in research is strongly associated with higher levels of psychological disorders that have substantial impact on various aspects of daily activities and highly impact the six core domains of psychological inflexibility.

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I. INTRODUCTION

Overview of psychological inflexibility

Studies investigating psychological inflexibility, its mechanisms of action, and its associations with various psychological disorders have increased in recent years; however, the construct remains poorly understood. Existing measures face limitations in accurately detecting psychological inflexibility or distinguishing it from related phenomena such as cognitive rigidity, emotion dysregulation, and maladaptive coping strategies. These gaps have prompted growing interest among researchers in developing more nuanced theoretical models and sophisticated measurement tools for better understanding psychological inflexibility and its clinical significance.

Psychological inflexibility is a recognized trait, linked to various psychological disorders and maladaptive reactions. It is a recent terminology, so there is a debate and no agreed-upon definition. Additionally, there is definition overlap between psychological inflexibility, emotion dysregulation, maladaptive coping, and cognitive rigidity (1, 2).

Generally, psychological inflexibility is a rigid reaction in response to unpleasant internal practices. It reflects a rigid adherence to current or past thoughts, experiences or emotional situations, on the expense of

well-being. It is the inability to wholly understand the present moment and share in actions aligned with personal values, especially when faced with hard emotions, thoughts, or memories. It is a multidimensional character, including inability to manage life's tasks and demands in a proper way when facing challenging or stressful situations (1).

Psychological inflexibility is an attempt to control psychological reactions to anxiety, often at the expense of behaviours guided by personal values, which disrupts psychological well-being (3).

Aim of Study

To develop and apply a new psychometric scale for measuring psychological inflexibility

Domains of psychological inflexibility and their impact on psychological disorders

Psychological inflexibility can manifest itself as difficulty shifting the focus of interest away from previous painful experiences or distressing emotions, which lead to maladaptive behaviour, not in harmony with one's values and beliefs. However, psychological inflexibility prevents a person from being open to new experiences or dealing with stressful situations through value-driven actions. These relationships illustrate the importance of further understanding of the mechanisms by which psychological inflexibility contributes to the commencement and progression of psychological disorders.

Researchers have identified six main domains related to psychological inflexibility, including cognitive fusion, experiential avoidance, present-moment disconnection, self-conceptualization, lack of contact with values, and inaction towards sensible goals (4,5). These domains have been examined for their influence on psychological health.

Cognitive fusion is characterized by rigid adherence to personal ideas as absolute facts, perceiving opinions as reality and consequently interfering with free thinking and facing challenges. This domain often leads to higher degrees of stress and anxiety (4,6).

Experiential avoidance involves suppressing distressing painful experiences and emotions, contributing to long-term psychological difficulties (7, 8). This avoidance may serve as a coping mechanism to control emotional reactions to anxiety at the expense of adaptive behaviour. It is associated with trials to withdraw from essential life activities, tendency to evade challenges and social interactions, reduced coping mechanisms, and increased psychological inflexibility (3, 9, 10). Experiential avoidance is associated with a tendency to escape facing challenges, reduced coping mechanisms, and higher levels of psychological inflexibility (11).

A **lack of values clarity or failure to participate in value-driven action** is associated with inability to plan expressive targets with vague understanding of one's values. This disorientation can result in poor decisions, especially those related to career planning, and behaviours which counter one's goals and desires (12).

Inaction or impulsivity is recognized as inability to take values-related decisions, which is a result of the avoidance behaviours, aiming to escape stress (5).

Attachment to the conceptualized self is a reaction based on previous experiences, pushing a person to adhere to inflexible ideas and thoughts. This inflexibility prevents gaining skills or adaptation to new environments (13).

Present-moment disconnection refers to inability to maintain attention to the current moment or daily functions due to unreliable past or fear from the future. This attentional rigidity can lead to inability to implement new skills and limit access to effective coping mechanisms (14).

Categories of Psychological Inflexibility and relationships with psychological disorders

Psychological inflexibility is further categorized into three wider groups based on the six domains model, which outlines the processes and dimensions that contribute to individuals' rigidity in thinking and behavior. The three groups include "Cognitive Process, "Behavioral Process", and "Affective and Motivational Process."

The cognitive processes category includes "Cognitive Fusion" and "Self-as-context." Faustino et al., 2021 and Hayes et al., 2011 described "Cognitive Fusion" as the entrapment within thoughts with inability to distance out from them. This leads to rigid thinking patterns as thoughts dictate behavior and emotions (15, 16). Meanwhile, "Self-as-context" is defined as the inability to adopt a flexible perspective on the self, resulting in rigid self-concepts and inflexible perceptions (17).

The "behavioral processes category" encompasses "Experiential Avoidance" and "Inaction." Weibflog et al., 2025 explained "experiential avoidance" as the tendency to escape from unpleasant internal feelings and thoughts, which may provide short-term relief but exacerbates long-term psychological inflexibility (18). In parallel, "Inaction" involves difficulties in decision-making, and was particularly reported when faced with challenges, reflecting a behavioral manifestation of psychological inflexibility (19, 20).

The "affective and motivational processes category" includes "Lack of Present-moment Awareness" and "Values Confusion." "Lack of Present-moment Awareness" is linked with difficulty in remaining engaged with

the present moment. This leads individuals to focus on past or future concerns, which can result in inflexible behavior and emotional distress (21).

“Values Confusion” was highlighted that includes a lack of clarity regarding the values, which can lead to aimless actions and a sense of dissatisfaction (22, 23).

In general, these three categories offer a comprehensive understanding of psychological inflexibility. Each category represents a distinct aspect, like rigid thinking, avoidance behavior, or motivational complications, thereby contributing to a deep understanding of how inflexibility manifests in various domains of life.

Factors Affecting Psychological Inflexibility

Psychological inflexibility refers to an individual’s inability to manage reactions to internal and external needs. There are various cognitive, contextual, and emotional factors influencing psychological inflexibility.

1. Emotional and cognitive disorders

Psychological inflexibility is notified that it is associated with high levels of psychological distress, including anxiety, as they are linked to emotional dysregulation and increased avoidance behaviours. Additionally, Chung et al. (2024) reported that inflexibility is related to cognitive misrepresentations and maladaptive thinking (24).

2. Experiential Avoidance

Experiential avoidance is one of the six domains of psychological inflexibility, referring to the tendency to escape and avoid challenging the unpleasant thoughts and feelings. Individuals who are less likely to share activities or face difficult circumstances are reported to be more vulnerable to develop manifestations of inflexibility. They are also experiencing reduced coping skills during stressful conditions (25).

3. Biopsychosocial and Environmental Factors

The study of Hernández-López et al., 2021 among Spanish students, notified that stressors associated with socio-economic (e.g., financial difficulties) and environment factors (e.g., during pandemic of Covid-19) could enhance manifestations of psychological inflexibility (26).

4. Genetic Factors

Nasello, Triffaux, and Hansenne, 2023 announced that certain personality traits such as neuroticism may be associated with high levels of psychological inflexibility and negative thoughts. On the other hand, traits like openness may be associated with more flexibility regarding thoughts and behavior (27).

5. The impact of coping styles, previous traumas and negative practices

The study by Avsec, et al., 2022 demonstrated the importance of coping skills for facing challenges in adults with psychological inflexibility. People with psychological flexibility tend to use meaning-centered coping skills (e.g., sharing activities), which refer to resilience while facing challenges or stressful conditions. The study shows that using meaning-centered coping mechanisms is associated with higher levels of psychological well-being. While, individuals with previous history of traumas, tend to use avoidance coping techniques, which is associated with psychological distress and higher levels of psychological ill-being, as it is a maladaptive mechanism for facing difficulties (28). While, Cheng et al. 2021 mentioned that previous traumas may be associated with higher levels of psychological inflexibility, as traumas may lead to maladaptive coping mechanisms, including avoidance (29).

6. Intolerance or Uncertainty

Smith, Twohy and Smith, 2020 highlighted that uncertainty and difficulty accepting unclear conditions may be a predictor of psychological inflexibility (30).

Associations of psychological inflexibility

1. Psychological inflexibility and age

Researchers reported conflicting results regarding the relationships between psychological inflexibility and age. Some studies showed a negative association between age and psychological flexibility. Several factors contribute to lower psychological inflexibility with age, including greater life experiences, healthier adaptation to life stressors, and better coping skills (31, 32,33).

From a different perspective, despite anxiety decreasing with age, higher levels of psychological inflexibility are demonstrated among a group of older individuals contributing to higher psychological distress. Psychological inflexibility is reported to be more prevalent among older individuals (34, 35). Also, A positive relationship was detected between age and psychological inflexibility (35). Older and middle-aged individuals showed higher levels of psychological inflexibility. Psychological inflexibility was announced with increased prevalence among older participants (36).

Aging is often associated with cognitive decline, neurological, or general health problems, and dementia late in life.

In addition, aging is associated with stress linked with fear of aging-related consequences, including mortality, loss of social engagement, reduced autonomy and reduced adaptability to changes (31). Research studies reported higher levels of psychological inflexibility among a group of old adults similar to that among middle aged individuals (33, 36, 37).

However, old individuals suffering psychological inflexibility have reported better psychological well-being after treatment with the acceptance and commitment therapy (38). Old individuals who shared mental activity programs and stimulating tasks showed lower psychological inflexibility and better psychological well-being (35).

2. Psychological inflexibility and gender

The relationships between psychological inflexibility and gender have shown mixed results. Some studies suggest that women tend to exhibit higher levels of psychological inflexibility, which negatively affects coping techniques and psychological well-being (1, 6). Research studies showed that female students display higher levels of cognitive fusion, experiential avoidance than males; both of which are key domains of psychological inflexibility. Females also have greater levels of stress, emotional reactivity, meditation, and internalizing disorders (e.g., anxiety and depression) (39).

Higher levels of depression and anxiety are shown among female athletes. Meanwhile, they reported better self-esteem and higher psychological flexibility skills among male athletes. These outcomes support gender differences in psychological inflexibility, which may influence results in sporting events (40, 41).

Additionally, females are more likely to be involved in emotion-focused coping mechanisms, such as seeking social support. In contrast, males often adopt problem-focused coping strategies and are more likely to use distraction techniques, which may contribute to lower levels of psychological inflexibility. These differences in coping strategies can influence gender variations in psychological inflexibility (42, 43). Moreover, research studies have highlighted that females experience greater difficulties in tolerating pain and are more liable to maladaptive regulation techniques, making them more prone to exacerbations of psychological inflexibility (44). Meanwhile, females who suffer from chronic pain showed higher psychological inflexibility and are more susceptible to cognitive fusion (30, 45).

On the contrary, females who participate in social and athletic activities, join courses in mindfulness aimed at enhancing psychological flexibility are less vulnerable to developing anxiety and they show better overall aspects of psychological well-being (46).

A third outcome is the inconsistency in research outcomes regarding gender differences in psychological inflexibility. While some studies report no significant variations, others suggest that men exhibit higher psychological inflexibility in specific situations, such as avoiding painful experiences and engaging in emotional suppression (47, 48).

Bautista et al., 2023 announced that psychological inflexibility is a stronger predictor of depression and anxiety among females (49). For this reason, de la Coba et al., 2022 announced that it is suitable to apply gender-specific therapeutic modalities, depending on decreasing cognitive fusion in females and increasing sharing in valued actions in males (50).

3. Psychological inflexibility and education

The relationship between psychological inflexibility and education received increasing attention in recent years. Researchers highlighted that psychological inflexibility significantly affects the academic process, achievement, and psychological well-being of both students and educators. It is closely linked to mental stress and anxiety leading to reduced interest in learning, educational activities and decision-making abilities (51, 52, 53, 54).

Additionally, the correlation between psychological inflexibility and anxiety was highlighted that in turn disturbs academic challenges and study environment, leading to poor academic achievement (55, 56, 57, 58, 59).

Research studies indicate that students with psychological inflexibility struggle to manage academic responsibilities, unable to adapt new strategies or accept innovative teaching methods. They are also incapable of dealing with failures and academic challenges (60). Such students often experience academic procrastination, negative emotions, and avoidance behaviours, which contribute to poor academic performance, low productivity and increased stress (61, 62). Similarly, the longitudinal study by Liinamaa et al., 2022 confirmed this association and showed higher dropout intentions among students with psychological inflexibility (63).

Psychological inflexibility is associated with memory impairments and incomplete study tasks (63, 64). These challenges may arise from deficits in creativity and problem-solving skills, which further impair academic performance (Marek et al., 2020; Cramer et al., 2019). Furthermore, psychological inflexibility may contribute to idealistic tendencies in students, fear of failure and diminished motivation towards academic achievements (47, 54).

Yao, Chen and Liu, 2023 announced that psychological inflexibility is often linked with reduced resilience, diminished creativity, and impaired problem-solving skills, causing lower academic performance (1). The effect of psychological inflexibility extends to teachers as well. So, educators experiencing psychological inflexibility face heightened anxiety and stress, negatively affecting their ability for classroom management, instructional effectiveness with imperfect teaching proficiencies (65, 66). Teachers with higher levels of psychological inflexibility showed greater anxiety and stress, which affected their ability to manage classrooms

(67). Also, psychological inflexibility among teachers was related to negative approaches to perfect teaching (68). Therapeutic modalities used for treating psychological inflexibility have been shown to improve psychological flexibility of students as well as educators, and the whole academic process (69).

4. Psychological inflexibility and employment

Psychological inflexibility is associated with rigid emotions and misaligned reactions with one's values, besides significant implications on employment (2, 70). Psychological inflexibility is associated with unemployment and unstable jobs, which may be a result of inability to tolerate workplace strategies, job responsibilities, and work stressors. Gedikli et al., 2022 documented the association between higher levels of psychological inflexibility and long periods of unemployment. They suggested that psychological inflexibility hinders employment and successful work production (71).

Additionally, studies reported negative impacts of psychological inflexibility on job satisfaction, and work performance (72). Moreover, studies reported detrimental impact of psychological inflexibility on work productivity, creativity, promotion, and job performance due to poor satisfaction and intolerance to work-related stressors (70, 73).

Conversely, a stable and secure employment status is linked to better overall well-being and psychological flexibility, which is important for tolerating workload and stressors, fostering a healthy workplace environment, and ensuring job stability (35, 74).

5. Psychological inflexibility and socio-economic status

Psychological inflexibility is closely related to socio-economic status, affecting both psychological well-being and adaptive functioning. Studies highlighted that a lower socio-economic status is associated with emotional distress, failure to face challenges, lower effective problem-solving behaviour, rigid thinking, and avoidance behaviour (Singh et al., 2024). Lower educational attainment, unemployment, job insecurity, and continuous economic stress are further socio-economic factors which can heighten psychological inflexibility (5, 76).

Individuals from lower socio-economic backgrounds usually experience higher levels of psychological inflexibility, anxiety, depression, and lower cognitive flexibility compared to those from wealthier backgrounds (77). Kukkola et al., 2023 reported that financial difficulties are associated with higher levels of psychological inflexibility and psychological ill-being (78). People from marginalized economic groups may develop chronic stress, financial insecurity, frequent facing difficulties, limited academic chances, exposure to hard emotional conditions, and reliance on avoidance behaviours (79, 80, 81). Additionally, these individuals reported difficulties in stress management, emotion regulation, career advancements, and decision-making abilities (82, 83). On the other hand, individuals with financial stability showed higher psychological flexibility, which may be due to better education, good social atmosphere and openness to new proficiencies (78).

Meanwhile, Machell et al., 2015 announced that higher academic qualifications are associated with greater levels of psychological flexibility. They correlated this finding to more resilience in problem-solving skills (84).

Studies have reported that sharing educational activities and courses for enhancing cognitive flexibility is associated with improved levels of psychological inflexibility among individuals from economically disadvantaged backgrounds (33, 85). These courses were associated with improved adaptability, enhanced emotional regulation and greater psychological well-being (86).

6. Psychological inflexibility and psychological well-being

Psychological inflexibility is characterized by rigid adherence to thoughts and emotions, with subsequent resistance to change, while psychological well-being is associated with life satisfaction and better psychological health (87). It interferes with psychological well-being and values-driven actions, leading to misaligned behaviour against one's thoughts and objectives (88).

Many authors reported a strong adverse impact of psychological inflexibility on psychological well-being (89). The meta-analysis by Ong et al., 2024 included 151 studies across 35 countries, reporting a significant negative impact of psychological inflexibility on psychological well-being (35). Individuals with higher levels of psychological inflexibility could manifest emotional distress and social isolation with subsequent deterioration of psychological well-being and prevalence of psychological troubles (90). Additionally, it is harmfully linked with different psychological issues, like anxiety, stress, and depression, that negatively impact psychological well-being (5, 7).

Psychological inflexibility could influence psychological well-being through experiential avoidance, one of the domains of psychological inflexibility. It is associated with unpleasant emotions, poor physical health, and drug abuse (89, 91). Experiential avoidance exacerbates negative emotional practices, interferes with satisfaction in life and prevents enjoyment and pleasure. Additionally, experiential avoidance prevents adaptation to challenges and allows suppressing unpleasant emotions rather than facing Struggles (92). Studies

notify that avoiding negative practices may exacerbate negative emotional conditions in the long-term, reducing life fulfillment and joy, and adding to profound pain with persistent reduction in psychological well-being (30).

On the contrary, psychological flexibility, identified as the ability to adapt to experiences and face challenges, is linked to resilience and satisfaction in life. Flexible individuals have reported higher levels of overall well-being, as they have the skills to cope with negative emotions and share activities even under tension (5, 7).

It is delightful that therapeutic modalities for managing psychological inflexibility are associated with improving psychological well-being (14, 92).

7. Psychological inflexibility and psychological disorders

Psychological inflexibility is a significant factor in developing, maintaining, and exacerbating psychological difficulties, leading to suffering while facing life challenges and developing psychological problems over time (93, 94).

Inflexible responses occur as a result of problematic behaviours related to avoidance reactions instead of values-based reactions (95). Experiential avoidance results in losing awareness about the moment and staying attached to conceptual identities (96). While, experiential avoidance is associated with negative emotions, the suppression of emotional responses leads to psychological issues and interfering decision-making abilities (94). Stressful events have a significant impact on individuals' reactions and behaviours, leading to various psychological responses (94, 97). Though, researchers observed that some individuals are more susceptible to the effects of life stressors than others (94, 98).

Psychological inflexibility contributes to a wide range of psychological ill-being and mental health issues, including anxiety disorders, mood abnormalities, obsessive-compulsive and related illnesses, substance use, eating disorders, behavioral health difficulties, neglecting issues, interpersonal conflicts, and emotional dysregulation (25, 98, 99, 100, 101, 102, 103).

Levin et al. (2020) emphasize that psychological inflexibility prolongs psychological disorders by hindering adaptive coping mechanisms, making it a central focus in therapeutic interventions aimed at improving mental health (104). For instance, Gloster et al. (2017) reported that therapies targeting psychological inflexibility, such as Acceptance and Commitment Therapy (ACT), are effective in treating various psychological issues (7).

8. Psychological inflexibility and anxiety

Psychological inflexibility is associated with higher levels of psychological disturbances, including anxiety and other negative emotions (7). Various studies reported a significant link between higher levels of psychological inflexibility, emotional disturbances, and anxiety, especially among students (3, 105). A Chinese study by Guo and colleagues (2020) reported that about 58% of Chinese medical students experience psychological inflexibility, while 14% exhibit manifestations of anxiety (106).

Psychological inflexibility exacerbates anxiety through different mechanisms, including negative impact on emotional regulation, promoting cognitive fusion, and experiential avoidance. The dysregulated emotional reactions enhance sensitivity towards perceived threats (72). Additionally, psychological inflexibility is associated with excessive worry, anxious thoughts and behaviours with functional impairment. While anxiety is characterized by worries and fear in response to external hazards, experiential avoidance reinforces fear and prevents emotional processing and corrective experiences, which lead to exacerbations of anxiety (12). Cognitive fusion is linked to distressing thoughts and fear from failure with rigid adherence to negative beliefs and emotions. Moreover, excessive focus on past experiences or future uncertainties with limited adaptive coping strategies exacerbate worry and anxiety (107).

Supporting the association between psychological inflexibility and anxiety, researchers reported lower levels of anxiety among workers with normal levels of psychological flexibility, signifying the role of flexibility in decreasing the psychological impact of workplace stressors (108).

9. Psychological inflexibility as a mediator between anxiety and psychological well-being

The relationships between psychological inflexibility, psychological well-being, and anxiety are multifaceted. Various studies showed that psychological inflexibility mediates the link between psychological distress and psychological well-being. The study of Eisenbeck et al., (2019) reinforced the role of psychological inflexibility in the development of psychological disorders among anxious students in Spain (59). The researchers also found that individual differences may be responsible for the delay in academic progress. Wasowicz et al., 2021 reported that psychological inflexibility mediates the relationship between anxiety and psychological well-being (105). The higher levels of psychological inflexibility can enhance the burden of anxiety on psychological well-being (94, 104, 109, 110, 111). Studies reported variability of the manifestations and severity of anxiety among people of similar characteristics (112). This inconsistency may be impacted by the levels of psychological inflexibility, which negatively influence mental well-being and contribute to

increased stress and anxiety (98, 112). However, individual differences, such as personality traits and coping mechanisms can also explain the individual variations in behaviours (59).

Additionally, the harmful effects of psychological inflexibility on psychological well-being is more obvious among individuals with higher levels of anxiety (Yao et al., 2023; Wasowicz et al., 2021). The study by Eisenbeck and colleagues, (2019), has documented negative impacts of psychological inflexibility on psychological well-being among Spanish respondents who experience high levels of stress and decreased coping techniques (59).

Challenges during studying psychological inflexibility

Many of the existing studies have relied on the current knowledge of psychological inflexibility, neglecting its broader dimensions, like the mechanisms of interaction with personality traits or cultural differences. Recently, Covid-19 pandemic has attracted attention towards individuals' behaviour when facing challenges and stressors. Related studies have reported that individuals with higher levels of psychological inflexibility during Covid-19 pandemic were associated with poorer psychological outcomes, including anxiety and decreased coping abilities (99, 113). These results could suggest that psychological inflexibility exaggerates susceptibility to stress and highlights the importance of exploring its interaction with some cultural and societal stressors in different circumstances. Another association which necessitates innovative exploration is the impact of psychological inflexibility on cognitive and emotional processes in younger adults, which may lead to maladaptive behavioural patterns with subsequent psychological disorders (114).

Future research directions

Psychological inflexibility is strongly associated with various psychiatric disorders; however, there are no definite clinical or biological methods for accurate exploration of these relationships. Despite the recognized importance of psychological inflexibility and hundreds of recent studies, several gaps remain in the associations, conceptualization, application, and measurement of psychological inflexibility (24). There is a growing need for further studies on psychological inflexibility, as this trait is essential for understanding different behavioural and psychological disorders, highlighting the necessity for further research in this field (93, 101).

Longitudinal studies are required to explore the causal association between psychological inflexibility and psychiatric illnesses. Functional MRI may provide insights into the neurobiological disorders and their relationships to psychological inflexibility, guiding in the development of tailored therapeutic modalities for psychological trouble management.

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