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REVIEW ARTICLE

Risk Factors and Methods of Reconstruction of Self-identity: A Scoping Review

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Abstract:

This scoping review explores the risk factors and methods of self-identity reconstruction in children and adults. In order to determine the relevant research, we searched the following network databases: Web of Science, EBSCO(asp/bsp), Ebsco_CINAHL Plus with Full Text, SCOPUS, CNKI and Taylor & Francis Online . The 17 articles that met the selection criteria were included in the present study written in English or Chinese, and published between 1990 and 2020, with no geographical restriction. The thematic analysis for the studies shows that the risk factors for self-reconstruction include values subversion, significant life events (such as damage, disease), career development crisis,trauma and Internet addiction. For reconstruction methods, the study identifies Group Sandplay Therapy, Neuropsychological Rehabilitation, Composition Work, Testimony Theater, Narrative Psychotherapy and Psychobiography Therapy. There is a close relationship between risk factors and methods of self-identity reconstruction. The two methods of composition work and psychobiography therapy can be combined to intervene individuals to effectively reconstruct their self-identity.

Keywords: Risk factors, Methods, Reconstruction of self-identity, Psychobiography therapy, Composition work, Mental health.

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1. INTRODUCTION

In the psychological literature, self-identity is broadly defined as the collective characteristics we perceive as our own, which endure over time and are continuously under construction [1]. Many of the issues affecting young people have their roots in self-identity [2]. Self-identity qualities influence people's mental health, achievement motivation, peer relationship, personality maturity and career development [3 - 5]. Moreover, self-identity is a multi-level, multi-dimensional psychological concept closely related to the development of self and personality [2]. In essence, because self-identity is evolving and subject to contextual influences, an individual's identity would be somewhat ambiguous and unstable [6]. The methods for self-identity development would also influence how it evolves over time.

As one of the core contents of the self, self-concept affects the formation of self-identity to a large extent [7, 8]. However, in the process of forming a self-concept, there will always be a gap with self-development. At the same time, due to factors such as values, individual growth background, and cognitive limitations, a distorted or wrong self-concept may be established [9]. Therefore, it must be constantly adjusted, repaired or even rebuilt. In general, and to a certain extent, individuals have the ability to repair themselves [10], but some situations like significant life events may partially or completely destroy an individual's existing self-identity or change that self-identity from positive to negative, from unity to division [11]. This renders individuals unable to rebuild their identity alone, and thus intervention of external forces becomes inevitable [12, 13]. Strong external support and intervention can influence the speed, quality and success of reconstruction of self-identity. Successful reconstruction can promote good and rapid development of self [14]. Otherwise, individual development will encounter difficulties and problems, often leading to a state of morbidity.

There are many factors that affect the effect of self-identity reconstruction, and the risk factors that trigger the self-identity crisis and the corresponding reconstruction methods are the key to the effect of reconstruction [15, 16]. So, which factors causing the self-identity crisis is needed the help of external force to effectively reconstruct self-identity? What are the main methods of effective reconstruction? What is the relationship between risk factors and reconstruction methods? The present scoping review attempts to clarify these questions.

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1.1. Goal of the Review

We aimed to explore the risk factors and methods influencing self-identity reconstruction and their relationship by combing the relevant literature.

The specific question included in this review was: What are the risk factors and methods of self-identity reconstruction in children and adults?

2. METHODS

In the present study, a scoping review of the literature was used [17]. Although other reviews, such as systematic literature reviews, are practical, they are designed to answer specific research questions [18]. In contrast, the scope reviewing provides a broad view of the field, which can be used to (a) reveal the important concepts supporting the research field, (b) clarify the working definition and / or (c) clarify the conceptual boundary of a topic [17]. Given that the study met each of the three criteria, a scoping review was considered the most appropriate method to address the research goals.

2.1. Search Strategy

We searched the following databases: Web of Science, EBSCO(asp/bsp), Ebsco_CINAHL Plus with Full Text, SCOPUS, CNKI and Taylor & Francis Online. Searches were performed using the following keywords: self-identity, self-identification, reconstruction, remodel, rebuilding, and reshape. The terms were combined in search with the Boolean operators "and" and/or "or".

2.1.1. Inclusion Criteria

The articles were eligible for inclusion if they:

- Were written in English or Chinese;
- Published between 1990 and 2020;
- The participants are children and/or adults;
- Risk factors and/or methods of self-identity reconstruction are reported.

We found 108 results in the first search and got 17 articles included in this review (Table **1**) after the screening process (Fig. **1**).

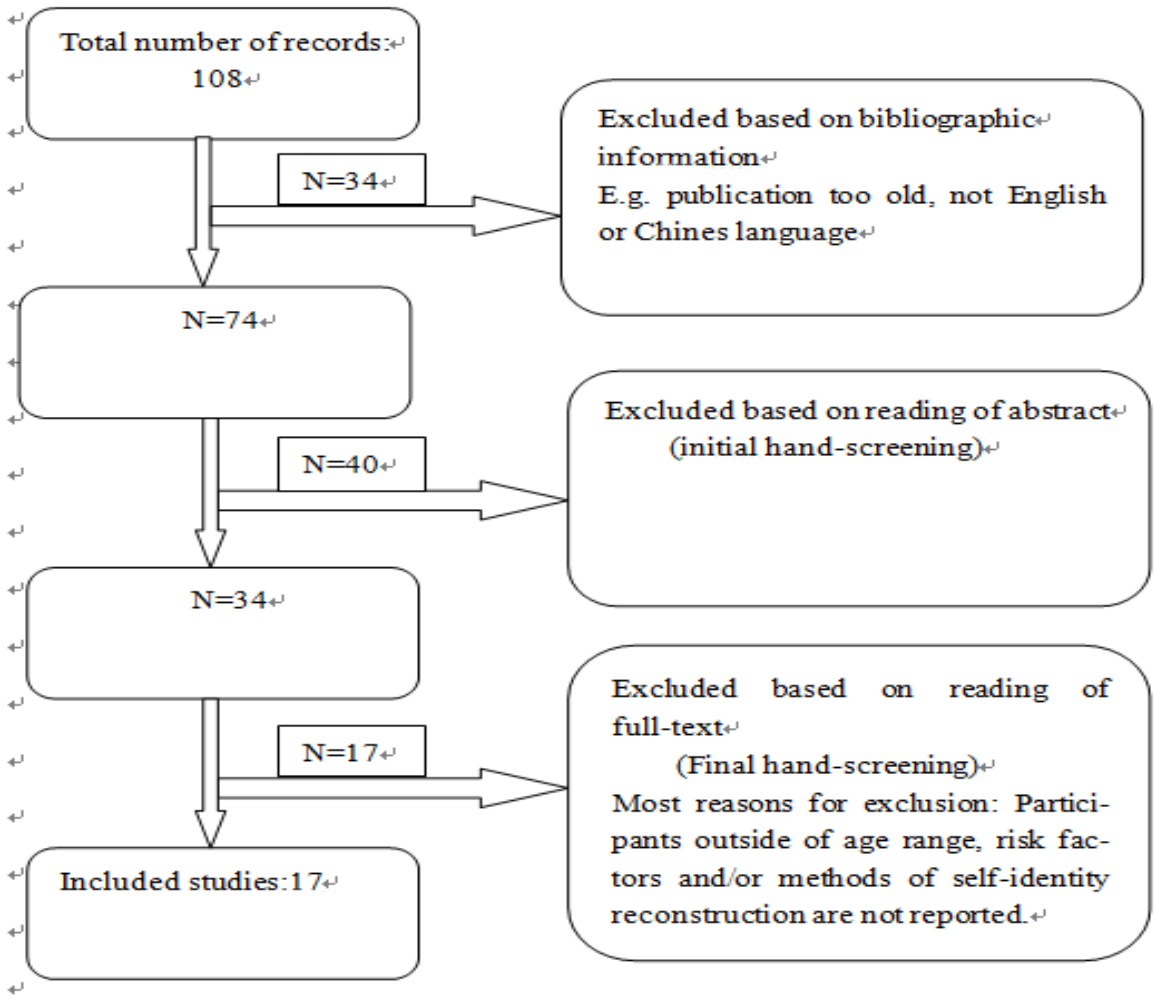

Fig. (1). Flowchart of exclusion process from unsorted results to included studies.

Table 1. Geographical distribution of studies.

Location of Studies Listed in Alphabetic Order	Total
America	7
Australia	1
Canada	2
China	4
Israel	1
Malaysia	1
New Zealand	1
Total	17

The inclusion and exclusion processes were performed independently by MH and JHZ. The interrater agreement was $\kappa = 0.91$, indicating satisfactory agreement.

2.2. Data Analysis

We used thematic analysis to summarize the research results. Authors have carefully reviewed the contents and classified those findings.

2.2.1. Geographical Distribution of Studies

As shown in Table **1**, 7 (41.2%) studies included in the review were conducted in America and 4 (23.5%) in China; two studies (11.7%) were conducted in Canada and one (5.9%) in Australia, Israel, Malaysia, and New Zealand, respectively. Five of the studies (29.4%) were Interview, Literature review and Review, respectively. The Interviews were done in Malaysia, Israel, America, China and Canada, respectively; the Literature reviews were conducted in Canada, China, America, New Zealand, and the Reviews were done in China and America, respectively.

2.2.2. Study Designs

As indicated in Table **2**, all of the 17 studies included in the present review were qualitative. The Interview, Literature review and Review are five, respectively.

Table 2. Study designs of included studies

Research Design	Number of Studies
Interview	5
Systematic review	2
Literature review	5
Review	5
Total	**17**

3. RESULTS

Five thematics emerged from the analysis of the data: values subversion and Group Sandplay Therapy, significant life events and Neuropsychological Rehabilitation, career development crisis and Composition Work, trauma and Testimony Theater, Internet addiction and Narrative Psychotherapy, Psychobiography Therapy. These important results from the 17 reviewed articles are listed in Table **3**.

Table 3. Key findings from 17 studies used in the review.

Author and Date	Country	Study Design and Sample	Key Findings
Konopka, Neimeyer, & Jacobs-Lentz,(2017)	America	Review	1. Composition work is a method of art therapy/coaching based on dialogical self theory (DST) and practiced in the broader context of a constructivist perspective. 2. Composition work is a dynamic process of symbolizing I-positions in nonverbal forms and externalizing them, positioning and repositioning them in a space as an artistic composition. It contributes to the reconstruction of self-identity.
Hu, Kumar, Huang,& Ratnavelu,(2017)	Malaysia	Interviews and questionnaires (*n*=57)	Content analysis reveals four factors that motivate people to express more true self (especially negative true self) when reconstructing their online identity and involve true self as a part of their self-guide in anonymous environment.
Kitayama & Salvador, (2017)	America	Review	1. Values as a major part of culture can affect an individual's self-identity by affecting the individual's self-concept. 2. The neural networks are plastically formed and modified and become patterned after cultural values.
Beadle, Ownsworth, Fleming, & Shum,(2016)	Australia	Systematic Review	1. Fifteen studies provided mostly evidence of negative changes to self-concept. However, stability in self-concept and positive changes to sense of self were also reported in some studies. 2. Furthermore, levels of self-esteem and personality characteristics did not significantly differ between participants with traumatic brain injury and orthopedic/trauma controls.
He & Zheng, (2016)	China	Systematic review	The study shows us the fact that research on narrative identity is of great significance but far from adequate. Despite that, some controversies still exist in previous studies: currently the biggest challenge of the narrative identity is the stability of identity construction and the relationship between narrative identity and the fictional memory.
Zheng & He, (2015)	China	Review	1. The basic theories of psychobiography therapy include prototypical scene, life story model of identity, and key factors for growth. 2. As a kind of ultra-short-term consultation (three to four sessions), psychobiography therapy has a good effect on the reconstruction of college students' self-identity.

(Table 3) contd.....

Author and Date	Country	Study Design and Sample	Key Findings
Peleg, Lev-Wiesel, & Yaniv,(2014)	Israel	Interview (*n*=17)	1. The Holocaust experience is an elementary component in constructing the identity of Holocaust Child Survivors (HCS). 2. When HCSs serve as tellers through the "Testimony Theater" project, a transformation from a collective identity to a self-identity happens.
McAdams & McLean,(2013)	America	Review	The narrator finds the meaning of salvation in distress and adversity, and shapes a life story based on personal motivation and exploration, tending to enjoy a higher level of mental health, happiness and maturity.
Boyce & Fleming-Castaldy,(2012)	America	Interview (*n*=4)	Active entertainment promotes a positive self-concept. This helps to rebuild the identity of the participants and make them healthy, confident and social women actively participating in their communities.
Johnston,(2012)	Canada	Literature review	Mindfulness is explored as a possible psychosocial intervention to help couples cope with women's altered self-identities.
Lei, (2012)	China	Literature review	Self-centered thinking, self-identity confusion, attachment, personality, and life events are closely related to Internet addiction. Improving the self-identity level of adolescents has become an important measure to predict and intervene in Internet addiction.
Cheng,(2011)	China	Interview (*n*=24)	1. The self-identity of Chinese women living with breast cancer did not fit the current combative survivor identity and narrative as represented in the North America media. Rather, a 'quiet', modest and practical narrative underscoring the Chinese virtues of self-reliance, endurance, and social responsibility and harmony characterized their lived experience and self-identity. 2. They endured unexpected major life events and accepted what life offers in an effort to move on with their lives of being a normal person again.
Kitayama, & Uskul, (2011)	America	Review	A new model of neuro-culture interaction proposed here addresses this conceptual gap by hypothesizing that the brain serves as a crucial site that accumulates effects of cultural experience, insofar as neural connectivity is likely modified through sustained engagement in cultural practices.
Anderson-Shaw, Baslet, & Villano,(2010)	America	Literature review	Cancers of the brain can cause changes in someone's neurocognitive capabilities, and can even challenge their self-concept and self-identity of some patients.
Levack, Kayes, & Fady,(2010)	New Zealand	Literature review	A set of themes were identified to reflect the progression people made from this state of loss following traumatic brain injury to the reconstruction of their lives. These themes included: 1) reconstruction of self-identity; 2) reconstruction of their place in the world; and 3) reconstruction of personhood.
Biderman, Daniels-Zide, & Marks, (2006)	America	Literature review	1. Nevertheless the number of holistic programs has increased, and a particular model of the holistic approach to the neuropsychological rehabilitation of persons with brain injury has been implemented in diverse countries. 2. Although each one of these programs has been modified to resolve the particular necessities and resources of the different countries, all of them implement Kurt Goldstein's ideas concerning the rehabilitation of persons with brain injuries.
Yoshida,(1993)	Canada	Interview (*n*=35)	1. The reconstruction of self and identity post spinal cord injury is conceptualized as a pendulum. 2. The pendulum depicts five predominant identity views (outcomes). These are: 1) the former self; 2) the supernormal identity; 3) the disabled identity as total self; 4) the disabled identity as an aspect of the total self; and 5) the middle self.

3.1. Value Subversion and Reconstruction of Self-identity

The values powerfully influence multiple layers of the human mind [19 - 21]. The neural networks are plastically formed, modified, and patterned after cultural values [21]. It is important that, upon receiving feedback, neural networks will be changed. As the common elements of values are engaged through consistent feedback, they will contribute to a cumulative change of the neural networks [22]. Cultural values could greatly influence individual's self-concept, thereby self-identity [19].

Different areas of the self are bonded with corresponding values, which may trigger different cognitive-behavioural processes when activated [23]. The self-concept, including values, consists of different domains (*i.e.*, personal and collective self), which denotes that different self-construals may activate different values [24]. The results show that therapeutic songwriting protocols focusing on identity may be more beneficial for the reconstruction of self-concept thereby self–identity of people who have transitioned from hospitalization to community [25]. In addition, the Group Sandplay Therapy had a great many positive effects in the formation of children's self-concept and the enhancement of children self-development [26].

3.2. Significant Life Events (Damage, Disease) and Reconstruction of Self-identity

Studies have shown that brain damage, brain tumors and breast cancer have a negative impact on cognitive, neurological, behavioral, emotional and personality functions of patients, thus affecting their sense of self, self-concept, self-esteem and self-identity [27 - 29]. A severe brain injury

changes every part of a young person's life in a way that no other injury can. It alters how they experience the world and the way they think, feel and respond [30]. Adverse consequences of brain injury may include impairments in the speed and efficiency of information processing, impairments in language and communication skills, inadequate awareness, and damaged self-esteem or ego-identity. These studies also found that nerve damage or disease may damage brain regions associated with the processing of self-related formation. Therefore, nerve damage or disease can directly and indirectly affect self-identity because other brain functions are impaired.

Consistent with Hill [31], researchers believe that patients with nerve damage or disease should reconstruct rather than repair their self-identity. Biderman *et al*. [28] showed that after intensive neuropsychological rehabilitation intervention, the broken self of some patients with brain damage can be restored. Three people who sustained severe incapacitating brain injuries underwent intensive rehabilitation, over a period of 1 year, as part of a therapeutic community program. This neurorehabilitation training process consists of four successive stages. They all went on to highly successful professional careers, which illustrates the possibility of reconstructing one's self-identity after a brain injury.

Johnston [29] found that breast cancer and its subsequent medical treatments have negative impacts on a woman's sense of self. An intervention program called Mindfulness-based Stress Reduction (MBSR) was used in the reconstruction of self-identity of breast cancer patients. MBSR typically entails eight consecutive weekly group sessions. It is proved that mindfulness practice is beneficial for both individuals and couples in breast cancer care, and the couple-based intervention is a useful path to address self-identity and body image.

Anderson-Shaw *et al*. [27] studied the self-identity of patients with brain tumors, finding that cancers of the brain can cause changes in neurocognitive capability, and it can even challenge the self-concept and self-identification of some patients. The destructive or lasting effects of a tumor from treatment, including radiation therapy and chemotherapy, can have long term effects on the different aspects that constitute a patient's self-identity. However, guide clinicians without proper evaluation tools are incapable of helping such patients who might have an alteration of their self-identity or sense of self. Therefore, researchers cannot intervene in the self-identity of patients with brain tumors.

A consistent finding in the chronic illness literature is that global and domain-specific self-concepts can be altered by the experience of serious illness, which, in turn, influences emotional adjustment and quality of life [32]. A meta-synthesis of 23 qualitative studies on subjective experiences of recovery after traumatic brain injury (TBI) found that changes in identity, including loss of self, social disconnection, and reconstruction of self-identity, were dominant themes [33].

3.3. Career Development Crisis, Trauma and Reconstruction of Self-identity

Konopka *et al*. [15] used the composition work technique to study and intervene in the self-identity of participants. As an artistic method of work with identity and emotions, composition work is widely used in therapy, counselling, coaching, and training. Its theoretical base is constructivism and dialogical self-theory (DST).

It allows participants to use small stones and other natural objects as representations of a community of self or I-positions to depict their dynamic relation to one another, reflecting different aspects of one's identity. The technique includes seven steps (Selecting the Stones, Placing the Stones, Labelling the Stones, Exploring the Composition, Voicing the Positions, Shifting Positions, Reflecting on the Work), any of which can be flexibly adapted by the user or therapist.

Take Jared as an example. Jared was a man of about 30 years old who was undergoing a professional development crisis while preparing to start a new career. The intervention achieved good results, with Jared stating that having a material representation in front of him was really satisfying, to the degree that he was not expecting. For him, it felt dynamic, so when he was instructed to reconfigure, it was very welcome.

Peleg *et al*. [34] examined the experience of Holocaust Child Survivors (HCSs) who shared their survival stories by trained in the "Testimony Theater" project. Arriving in Israel, the HCSs had a collective identity of "Holocaust Survivors" that impressed them with feelings of shyness and inferiority, which impeded the construction of their self-identity. However, when HCSs serve as tellers through the "Testimony Theater" project, a transformation from a collective identity to a self-identity happens. This role enables HCSs to reconstruct their self-identity and find in it a positive, personal, and meaningful role.

3.4. Internet Addiction and Reconstruction of Self-identity

3.4.1. Narrative Identity, Narrative Psychotherapy and Reconstruction of Self-identity

The term Narrative Identity is a person's internalized and evolving life story, integrating the reconstructed past and imagined future to provide life with some degree of unity and purpose [35]. McAdams distinguishes between "subject me" (I) and "object me" (me) in narrative identity. The narrative identity rebuilds the autobiographical past and imagines the future in a way, thereby providing some degree of unity, purpose and meaning to people's lives [36]. McAdams [37] believes that rebuilding and internalizing a life story can provide an answer to Erikson's key questions about self-identity, such as Who am I? How did I come to be? Where is my life going? In the latest research on narrative identity, researchers have focused on psychological adjustment and development [35].

Narrative psychotherapy theory believes that the self is not a spiritual entity but the result of interpersonal interactions in social life, a process of "narrative" and a product of language construction [5, 38]. A narrative psychotherapy approach using dialogical theory and therapy ideas is a reasonable approach for the psychotherapy of psychosis [39]. Review of psychotherapy notes showed that narrative approaches allowed the therapist to align with the patient as a collaborator in considering the story presented and was, therefore, less productive of defensiveness

and self-criticism than conventional approaches. The therapy included techniques for negotiating changes in illness narratives, identity narratives, and treatment narratives that were more conducive to well-being and recovery. "Problem externalization" technology separates the problem from parties, enabling the parties to deal with their own emotional problems more objectively when telling their own life stories so that the problems can be easily changed, creating an opportunity to reconstruct a positive self-concept. Narrative psychotherapy is widely used in a variety of clinical issues [5]. Zhao, Li, and Li [40] used narrative group counselling to promote college students' self-identity development, finding it an effective method.

3.4.2. Psychobiography Therapy and Reconstruction of Self-identity

Psychobiography therapy was developed by Professor Jianhong Zheng on the basis of the theories of psychobiography and life-story interview techniques, combined with practice and thinking. Narrative refers to the narrative or story describing an event, and an individual's life story is very conducive to reflection on the continuity and significance of an individual's life. A life story is an internalized and constantly evolving self-narrative. People integrate the past, present and future, giving life a sense of unity, purpose and meaning [36]. A life story shows the identity and integration in personality [41]. Psychobiography therapy is based on psychological concepts and theories related to psychobiography. With the help of counsellors, clients work through their narrative, writing about their own integral life story, and reading the biographies of outstanding or iconic figures in order to help change their bad life stories into good ones. Zheng and He [42] believe there are many differences between psychobiography therapy and narrative psychotherapy in terms of their understanding of the theoretical basis, methods, and techniques, as well as the psychological problems of clients. The basic steps of psychobiography therapy are aimed at clients achieving a re-interpretation and positive understanding of their own life stories, facilitating changes in self-identity by narrating, listening, reading and writing. As a kind of ultra-short-term consultation (three to four sessions), psychobiography therapy has a good effect on the reconstruction of college students' self-identity [42]. For example, two Chinese college students suffering self-identity confusion (crisis) due to unfortunate childhood growth experiences and physical defects (extra thumb on the left hand), respectively, had significant improvement in self-identity status after receiving psychobiography therapy by Zheng.

4. DISCUSSION

Existing studies have used different technologies to intervene in different natures of self-identity crisis, achieving varied results. However, no studies have been conducted to compare the effects of different intervention technologies on self-identity crisis with the same nature to identify better or even optimal intervention techniques. Likewise, there has been no study on the effects of one particular intervention technology on different types of self-identity crisis to identify the application prospects of certain intervention techniques. The tripartite model of self-construal argues that the self contains three aspects – individual self, relational self and collective self – and these exist simultaneously [43, 44]. Although the core position of the individual self has been confirmed by many studies [45], the relative roles of the three types of self depend on different cultural backgrounds, such as a collectivist or individualist culture [46, 47]. Therefore, this possible difference should be considered even if the same technique is used to reconstruct the self-identity of clients from different cultural contexts.

Several relatively effective self-identity reconstruction techniques have been developed. Composition work and psychobiography therapy have particular advantages and have broad prospects in self-identity reconstruction [15, 45], because they embody the basic idea of self-construal theory – that is, the tendency of individuals to cognize within a certain reference system when they know themselves [48]. For example, fewer questions are raised in psychobiography therapy as compared to other therapies, and procedures are basically fixed and clear, making them easy for beginners to grasp. Psychobiography therapy is more economical than other therapies in terms of training and the number of consultations. Composition work allows participants to represent the different components of self with small stones or other natural objects, manipulating and transforming them spatially, which not only helps the participants to clearly and intuitively understand the problems in their self, but also to solve these problems in the actual exploration process and form a new self-identity.

5. PRACTICAL IMPLICATIONS FOR SELF-IDENTITY RECONSTRUCTION

Composition work and psychobiography therapy have obvious characteristics and advantages in self-identity reconstruction [15, 42], but there are still some issues to be resolved. For example, can composition work effectively intervene in the crisis of self-identity caused by Internet addiction, learning disabilities or other significant life events? There is no positive answer to this question from the existing literature, and its application scope needs further verification. Studies have shown that psychobiography therapy is effective in resolving self-identity crisis caused by unfortunate childhood growth experiences [42], but is it also equally effective for intervention for other self-identity crises (such as that caused by Internet addiction)? Narrative orientation group counseling is an effective way to promote the development of college students' self-identity [40], so can psychobiography therapy stemming from narrative psychotherapy also adopt group psychotherapy to reconstruct self-identity? It requires cross-validation of multiple methods of self-identity reconstruction.

In essence, psychobiography therapy takes the life story as its core, and the life story involves time as its main line, reflecting continuity and dynamics of self [42]. Composition work is carried out within a certain space. The active operation presents a collection of self-cross-sections of countless moments in a certain period of time, reflecting the integrity of the self [15]. Thus, it is possible to combine psychobiography

therapy with composition work to reconstruct self-identity. Inspired by Dyakov's [49] self-identity dynamic assessment model, the authors have a preliminary idea. The basic steps of psychobiography therapy include narrating stories, listening to stories, reading stories, and writing stories. Listening to the story is the second step – that is, the client carefully listens to the mentor's retelling of the client's life story. In the process of listening to their own life stories, clients reorganize, supplement and interpret their life stories with their mentor. In this process, clients can visualize the prototype scenes in their life stories through their operations on the spatial position of the objects and their relative relationships according to the principle and technology of the composition work, and it is helpful for the client to connect prototype scenes with their psychological problems. The objects here can be small stones or other natural objects. They are labelled and named during the operation (*e.g*., named after a father, mother, classmate, teacher, general manager, principal, *etc*.) [15]. Those who are unable or unwilling to write an autobiography can retell their life stories again. At this time, the composition work should be synchronized. For the more serious client, the above four steps can be repeated until the last story written by the client can present a new life story different from the previous one.

CONCLUSION

Thematic analysis of the studies revealed the risk factors for self-reconstruction including values subversion, significant life events (such as damage, disease), career development crisis,trauma and Internet addiction. For methods of reconstruction, the study identifies Group Sandplay Therapy, Neuropsychological Rehabilitation, Composition Work, Testimony Theater, Narrative Psychotherapy and Psychobiography Therapy. Results of the scoping review show that there is a close relationship between risk factors and methods of self-identity reconstruction. Specifically, self-identity crisis caused by various factors such as nerve damage, disease and Internet addiction was studied, and corresponding methods and techniques were used to intervene and effectively reconstruct self-identity. The two methods of composition work and psychobiography therapy can be combined to intervene individuals to effectively reconstruct their self-identity.

LIMITATIONS AND FUTURE SCOPE

Although the study has drawn some valuable conclusions and made some contributions to the field of self-identity research, it also has the following limitations:

First, our review only included published articles and this may have biased the results. We did not include studies published before 1990 and those which were not in English or Chinese language. Future studies should look at published papers and also grey literature.

Second, all of the articles reviewed are qualitative research, and none is quantitative research. Future research should focus on quantitative research on self-identity reconstruction.

Third, although each study in the scoping review provided valuable insights, the methods in each study were not evaluated. Future research will benefit from further reviews, such as systematic reviews, to assess methodological considerations and provide opportunities for future improvements.

Finally, among methods of self-identity reconstruction, the two methods of Composition work and psychobiography therapy have their own characteristics, and they also have their own advantages and disadvantages. If these two methods can be organically combined to intervene in the self-identity of individuals, unexpected results may be achieved. Therefore, in the future, we should first conceive how to organically combine the two methods at the theoretical level to initially form a new interventional method of self-identity reconstruction; Next, at the practical level, we should comprehensively use cross-sectional research and longitudinal research (especially tracking experimental research) to investigate the applicable conditions and effectiveness of the method, and constantly improve it.

CONSENT FOR PUBLICATION

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CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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