

# **Exploring the Self through Songwriting: An Analysis of Songs Composed by People with Acquired Neurodisability in an Inpatient Rehabilitation Program**

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## **Abstract**

**Background:** Neurological trauma is associated with significant damage to people's pre-injury self-concept. Therapeutic songwriting has been linked with changes in self-concept and improved psychological wellbeing.

**Objective:** This study analysed the lyrics of songs composed by inpatients with neurological injuries who participated in a targeted songwriting program. The aim of this study was to understand which of the subdomains of the self-concept were the most frequently expressed in songs.

**Method:** An independent, deductive content analysis of 36 songs composed by 12 adults with spinal cord injury or brain injury (11 males, mean aged 41 years  $\pm$  13) were undertaken by authors 1 and 2.

**Results:** Deductive analysis indicated that when writing about the past self, people created songs that reflected a strong focus on family and descriptions of their personality. In contrast, there is a clear preoccupation with the physical self, on the personal self and a tendency for spiritual and moral reflections to emerge during the active phase of rehabilitation (song about the present self). Statistical analyses confirmed a significant self-concept subdomain by song interaction,  $F(10,110)=5.98$ ,  $p<.001$ ,  $\eta_p^2=.35$ ), which was primarily due to an increased focus on physical self concept and a

reduced focus on family self-concept in the present song, than in either past or future songs.

**Conclusions:** The analysis process confirmed that songwriting is a vehicle that allows for exploration of self-concept in individuals with neurological impairments. Songwriting may serve as a therapeutic tool to target the most prevalent areas of self-concept challenges for clients undergoing inpatient neurological rehabilitation programs.

**Keywords:** brain injury, spinal cord injury, self-concept, songwriting, adjustment to disability

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## **Introduction**

Music and music therapy programs have the potential to address challenges to the self-concept and help to build a healthy sense of self in a range of clinical populations (MacDonald, Hargreaves, & Miell, 2016). People with acquired brain injury (ABI) or spinal cord injury (SCI) often experience a disintegrated sense of self as they attempt to come to terms with the implications of acquiring a permanent injury (Beadle, Ownsworth, Fleming, & Shum, 2016). Reconstructing a positive self-concept and identity after neurological injury is considered to be an important goal of rehabilitation, as it reduces the likelihood of experiencing depressive symptoms (Carrol & Coetzer, 2011) and assists them in maintaining motivation to engage in rehabilitation contributing to better patient outcomes (Biderman, Daniels-Zide, Reyes, & Marks, 2006). Therapeutic songwriting is one approach that has been shown to be effective in addressing the self-concept and identity issues in people with acquired neurological injuries (Baker & MacDonald, 2016; another reference removed for blind review). However, there remain gaps in knowledge about the most commonly reported struggles and triumphs that people experience as they create songs expressing changed identity. In this study, we deductively identified themes embedded in songs created by people with neurological injuries as part of a larger clinical trial.

## **Literature Review**

Acquired brain injury (ABI) or spinal cord injury (SCI) can trigger profound and lasting negative changes to an individual's sense of self (Beadle et al., 2016). The self-concept is a collection of beliefs about the self that enables people to have a sense of who they are in the world (Fitts & Warren, 1996). It enables them to answer the question "Who am I?" and comprises six broad subdomains – the personal self, moral self, social self, physical self, academic/career self, and family self (Fitts & Warren, 1996). Each of these subdomains can contribute to a person's sense of self. The personal self refers to how people describe their personality for example, outgoing, serious, hardworking, happy-go-lucky etcetera. The moral self represents people's described experiences themselves in terms of being a moral, spiritual, religious, or ethical self. The family self and social self is understood to be people's perception of their place within their family unit and social circles respectively. The physical self is a subdomain that refers to how people perceive their own bodies, states of health, physical

appearances, and sexuality, while the academic self concerns self-perceptions in relation to education, training, career and employment.

Research findings indicate that people with ABI and SCI commonly experience a disintegrated sense of self (Muenchberger, Kendall, & Neal, 2008), and report discrepancies between the past, present, and future self, and rate self-concept subdomains substantially lower than matched controls (e.g. Anson & Ponsford, 2006; Kelly, Ponsford, & Couchman, 2013; Ponsford, Kelly, & Couchman, 2014; Yoshida, 1993). Research by Lennon and colleagues (2014) found that people with SCI and people with ABI reconstruct their sense of self in much the same way. Both groups reported that the experience of acquiring the injury and undergoing rehabilitation afforded them opportunities for creating positive change. For example, reflecting on the impact of their injuries was perceived to have made them more resilient, open-minded, to engage in a re-evaluation of priorities, and to have a deeper appreciation of and a need to search for meaningful relationships. Similarly, both populations have described similar negative self-narratives including negative views about their bodies. Importantly, Lennon and colleagues found that people communicated positive self-narratives immediately following the negative ones (often within the same sentence), and that people with ABI or with SCI “experienced their self-reconstruction as paradoxically simultaneously changing and continuous” (p.36).

Several models of how people reconstruct their sense of self following neurological injuries have been proposed (Amiot, de la Sablonniere, Terry, & Smith, 2007; Gendreau & de la Sablonniere, 2014; Muenchberger et al., 2008). Muenchberger et al. (2008), presented a 4-phase process: 1) examining the pre-injury identity, 2) understanding the injury, 3) accepting the injury, and 4) integrating the injury into their lives. Their research found that people oscillate between an expansion (adding new facets of themselves to their self-definition) and contraction (relegating or removing facets of themselves from their self-definition) of identity as they construct a new sense of self. Gendreau and de la Sablonniere (2014) draw on Cognitive-Developmental Model of Social Identity Integration (CDMSII, Amiot et al. , 2007) whereby identity (re)development occurs when compartmentalized components of the self become more organized via new cognitive associations. In this model, people begin by valuing their pre-injury self over their post-injury self and engage in categorizing and

comparing aspects of the two selves (categorization phase). During the compartmentalization phase, people make links between their pre and post-injury selves. The integration phase occurs when similarities between pre-injury and post-injury components are organized and merge into a more cohesive sense of self (Gendreau & de la Sablonniere, 2014).

A recent systematic review described 10 studies that highlighted the success of some interventions on improving self-concept in people with brain injury (Ownsworth & Haslam, 2014). There was some support for cognitive rehabilitation interventions including interpersonal feedback, problem-solving skill training or memory rehabilitation. However, the studies all focused on global self-evaluations rather than exploring the various subdomains of self-concept such as the physical self, family self and personal self (Fitts & Warren, 1996). There are still evidential gaps in the literature about the extent of change that occurs within the different subdomains of the self-concept (e.g. physical, social, family etc) following an acquired neurodisability, and how these contribute to the constructive of a global self-concept (Ownsworth & Haslam, 2014). Further, there is a lack of knowledge about whether interventions are effective in addressing all aspects of self-concept, or whether they might be more effective for certain subdomains.

Songwriting is an active and highly personal form of music engagement and may be an effective means of enhancing identity and wellbeing after neurological injury. Some of our early studies explored the role of songwriting as a medium to assist people with ABI to adjust to their changed circumstances (removed for blind review). More recently, we have developed and published a songwriting protocol that specifically targets the fragmented post-injury self-concept (removed for blind review). Our paper provides theoretical perspectives to illustrate why narrative songwriting (songwriting as a story-telling process) represents an appropriate medium through which to explore a person's sense of self. Theories of therapeutic songwriting suggest that it enables people to tell their story (akin to narrative approaches that have been previously described as useful for people recovering from neurological injury [Fraas, 2015]) so that they can construct meaning about their past, present, and future lives (Baker, 2015a; Davis & Novoa, 2013) and integrate multiple injured and non-injured self-narratives (removed for blind review). As music can elicit emotionally potent experiences, song lyrics have the potential to be better encoded in memory than verbal dialogue alone

(Baumgartner, Lutz, Schmidt, & Jäncke, 2006). Further, musical identity is often unaffected by neurological injury (Baird & Samson, 2014), so songwriting is a resource that allows the person with neurodisability to access the continuity of identity, bringing it into conscious awareness rather than focusing purely on the disabled self. As people with acquire neurological injuries experience prolonged engagement with exploring the self while creating songs, we can provide them with the opportunity to process and reconstruct a new, integrated identity that incorporates enduring and new components (removed for blind review).

Songs created by people with neurological disabilities provide a unique and emotionally potent window into their lived experience (removed for blind review). Song creations are typically raw expressions of the inner self; they permit the songwriter to authentically express feelings and experiences, censoring less than they might in conversations. Song structures also allow for repetition of the most salient points and the addition of melodic, rhythmic, and harmonic features that intensify these expressions (Baker, 2015b). Engagement with songwriting offers opportunities to explore fundamental issues relating to participants' sense of self. Moreover, the concept of musical identity is an area of research currently receiving considerable attention since music is linked to our sense of self in many important ways – for instance, in beliefs about musicality, music preferences, and listening practices (MacDonald, Hargreaves, & Miell, 2016). When participants actively contribute thoughts, feelings, and tell stories about themselves, and then choose the most salient of these to include in their song, analyzing the lyrics offers a unique opportunity to understand the process of constructing a new sense of self.

To support theory (removed for blind review) and emerging evidence (removed for blind review) that therapeutic songwriting enables people to explore the self-concept and reconstruct a healthy sense of self, we sought to analyse the themes of songs created by people with ABI and SCI undergoing an inpatient rehabilitation program who were part of a larger randomised controlled trial. Pilot outcome data from this trial (removed for blind review) indicate that the protocol positively impacts self-concept ( $d=0.557$ ,  $p<0.05$ ) and significantly reduce depressive symptoms ( $d=0.682$ ,  $p<0.05$ ). Each participant randomized into the songwriting condition had been assisted by a music therapist to create three songs (a song about the past self, the present self, and an imagined future self) where the focus

was on exploring and rebuilding a new and realistic sense of self, using the following six subdomains of the self-concept as the focus: physical self; spiritual/moral self; family self; social self; personal self; and academic/vocational self to guide the process. Our study aimed to answer the following questions:

1. What subdomains of the self-concept are described in songs created by people with acquired neurological injuries and which ones are the most represented in songs?
2. Are there any differences in the extent to which these subdomains are present in songs about (1) the past, (2) the present, and (3) the imagined future?

## **Method**

### **Study Design**

As the intervention was informed by theories of the self-concept proposed by Fitts and Warren (1996), we used a content analysis approach to explore where, and how often, the self-concept subdomains (the physical, academic/vocational, personal, social, family, and spiritual/moral self) were present in the participants' song lyrics. Content analysis is a systematic method of research that operationalizes procedures of data analysis to make replicable and valid inferences about the data it is analyzing (Krippendorff, 2013). While the approach has been extensively used in analyzing media messages, Riffe, Lacy, and Fico (2014) suggest it is appropriate to extend the content analysis approach to the analysis of song lyrics. Importantly, approaches to coding the data – lyrics in this case – are guided by the theory underpinning the study (Removed for blind review). Therefore, the content is deductively coded to identify trends (Riffe et al., 2014). In content analysis, data deals with manifest content (surface meaning) rather than latent content (reading between the lines).

### **Participants**

Over a 9-month period, we recruited 12 participants from a large metropolitan rehabilitation hospital who had either a SCI or ABI. Inclusion criteria comprised: (1) inpatient status at XXX (name withheld for blind review) from the ABI, Spinal or Neurology wards; (2) diagnosis of SCI or ABI (including traumatic brain injury, stroke and substance abuse); (3) aged between 18 and 65 years of age; (4) <12 months post-injury/onset; (5) cognitive ability to complete self-report measures that were part of the randomised control trial (as determined by a neuropsychologist); (6) without significant

language or hearing impairments; and (7) not in posttraumatic amnesia. We recruited 6 ABI and 6 SCI inpatients, 11 of whom were male, with a mean age of 41 years (SD =13 years). All participants were undergoing active inpatient rehabilitation programs and were on average 86 days post-injury (SD 46, range 15 – 157 days). Three participants were single, eight were married or in de facto relationships, and one was divorced. The highest level of education ranged from incomplete high school education (n=1), to high school education (n=6), trade/apprenticeship (n=1), and undergraduate or postgraduate university education (n= 4). All participants gave written informed consent to the study, which was approved by the University and Hospital Human Research Ethics Committees.

### **Songwriting program**

Participants in the study attended a 12-session individual songwriting program designed specifically to explore the subdomains of the self-concept (reference to full protocol removed for blind review). Each songwriting session was 1 hour in duration and sessions were held twice per week for 6 weeks. The program was divided into three phases. During Phase 1 (sessions 1-4), the participant was guided through the creation of an original song that was focused on the pre-injured, past self. It explored the notion of ‘who was I before I received this injury?’ A qualified music therapist with more than 15-years experience working with people with acquired neurological injuries supported the participant by transcribing these reflections, validating verbal contributions, encouraging the participant to explore all subdomains of the self-concept, helping shape the verbal contributions into a coherent story, co-creating lyrics, and assisting with construction of music to express the emotions that emerged in the lyrics. During the creation of songs that were part of the program, the therapist prompted the participant to comment on each of the subdomains (physical self, social self, moral self etc) if these did not emerge organically as part of the self-exploration process. Only the aspects of the self that the participant identified as most salient and important, were included in the song. So even though all self-concept subdomains were discussed in the brainstorming process, not all were represented in each of the final song lyrics. The music for some songs was created and played on acoustic guitar or piano, whereas other songs were crafted using the IOS Garageband music application. Each song was recorded and a copy provided to the participant.



During Phase 2 (sessions 5-8), the same process used in sessions 1-4 was repeated, except that during this phase, the participant created a song that reflected on the present self. Following this, Phase 3 (sessions 9-12) comprised the creation of a song about the imagined future self.

The therapist remained vigilant not to influence the participants' choice of lyrics throughout the songwriting process by ensuring the participants' own words were used in the lyrics. Revisiting the constructed lyrics from session to session allowed the therapist to corroborate with the participants to ensure the lyrics truly represented their own story of the self.

### **Lyric analysis process**

The lyrics of 36 songs created by the 12 participants were independently analyzed by two authors (authors 1 and 2) using deductive content analysis (Elo & Kyngäs, 2007). In brief, the content of all lyrics were reviewed and assessed for content relating to each of the six subdomains of the self (physical, academic/vocational, personal, social, family, and spiritual/moral self; Fitts & Warren, 1996), which had been intentionally explored during the songwriting process. One of the coders (author 1) was blind to all participant characteristics including gender, diagnosis, relationship status, and time since injury, and had no overview of each participants' therapeutic journey during the songwriting process. The second coder was the clinician (author 2) who facilitated the song creation process and had unique insight into the songwriting process for each participant. Lyric lines, which did not describe one of the subdomains of the self-concept, or were too abstract for the coder to reliably assign a code, received ratings of 0 (to avoid latent content analysis). For example, the lyric "I'm moving forward to a future that is full of light" (AS, song about the future self), was not clearly indicative of any subdomain of the self-concept, so was not coded. Other uncoded lyrics included descriptions of events, for example, "Came from India, five years ago" (KB, song about past self) or abstract or philosophical concepts, for example, "Life is like the seasons, always changing" (KB, song about present) and "Like sunlight and clouds, together but apart" (AM, song about the present). In other cases, lyrics were assigned scores for multiple self-concept subdomains because they expressed aspects of two subdomains of the self-concept. For example, for the lyrics "To rely on other people, you lose your dignity" (VS, song about the present self) was coded as physical self and personal self. An example of how an entire song was coded is presented in Appendix 1.

Following the independent coding process, the two coders compared scores for each lyrical phrase within the song and where there were discrepancies, these were discussed until arriving at a coding consensus. Inter-rater agreement was calculated by computing the percentages of discrepancies across the entire pool of coded lyrics prior to engaging in the scoring consensus process. Inter-rater agreement was high (94%). These data were considered equivalent to an interval rating of the relative presence of content relating to that subdomain in that song and therefore suitable for parametric (repeated measures) statistical analyses.

### **Data analysis**

Repeated measures ANOVAs with injury type (between group levels: SCI or ABI), self-concept sub-domain (within group levels: social, physical, moral, academic, family and personal) and song (within group levels: past, present, future self) were used to analyse the data. Significant interactions were followed with post-hoc simple (repeated) main effects analyses with alpha adjusted to .016 for multiple comparisons across the 3 songs, and to .008 for multiple comparisons across the 6 domains. Two sided significance levels were used throughout. The assumption of sphericity was tested using Mauchly's test of sphericity. Where violated, a Greenhouse-Geisser correction was applied.

### **Results**

Table 1 presents content for each of the six self-concept subdomains, for each song (past, present, future), for ABI and SCI patients. The song lengths varied across songs, so the percentage of each of the subdomains for each song category was calculated from the total number of coded lyrics for each song category.

<INSERT TABLE 1 ABOUT HERE>

A preliminary 2 (injury type) x 6 (subdomain) x 3 (song) mixed ANOVA was performed to assess whether song content differed between patient groups. No main effect of injury type was observed,  $F(1,10)=0.03$ ,  $p=.872$ ,  $\eta_p^2=.003$ , so due to the small cell sizes, the two patient groups were pooled for the main analysis. A two-way 6 (subdomain) x 3 (song) repeated-measures ANOVA was performed to assess whether song content differed across subdomains and song, followed by post-hoc simple (repeated) main effects analyses within subdomain and song.

In total, songs appeared to contain more personal, physical and family content than social, moral or academic/vocational content. A 6 (subdomain) x 3 (song) repeated measures ANOVA on content scores revealed a significant main effect of subdomain content,  $F(5,55)=6.59, p<.001, \eta_p^2 = .37$ . The number of coded lyrics varied across the past, present and future-focused songs, with most participants writing longer (and therefore more coded lyrics) for the song about the present self and the least number of lyrics about the future. No song main effect was however observed.

The relative mix of self-concept subdomain content also varied across songs. The song about the past self focused more on family and the personal self; the physical and personal self dominated the song about the present self; and the song about the future self focused primarily on the physical, personal, and family self. The two-way mixed ANOVA revealed a significant subdomain by song interaction effect,  $F(10,110)=5.98, p<.001, \eta_p^2 = .35$ . Post-hoc simple main effects (repeated measures one-way ANOVAs with  $\alpha$  reduced to .008) confirmed significant differences between the relative amount of self-concept subdomain content within the present song,  $F(5,55)=10.42, p<.001, \eta_p^2 = .487$ , but not the past (sphericity not assumed),  $F(2.56,28.12)=4.54, p=.014, \eta_p^2 = .002$ , or future (sphericity not assumed),  $F(2.36,25.95)=3.19, p=.050, \eta_p^2 = .002$  songs. Within the present self songs, the subdomain of physical self was the most prominent content, with a substantial increase from 5% in the past, to 35% in the present. Post-hoc analyses (with  $\alpha$  reduced to .016) confirmed that physical content ratings varied significantly across songs,  $F(2,22)=5.08, p=.015, \eta_p^2 = .316$  (sphericity assumed), with ratings significantly higher in the present and future self-songs than in the past self song ( $p<.001$  and  $p=.009$  respectively). In contrast, the family self was the most prominently coded subdomain in the song about the past self and noticeably decreased in the song about the present and was again more frequently coded in the songs describing the future self. Family content ratings varied significantly across songs,  $F(2,22)=5.08, p=.015, \eta_p^2 = .316$  (sphericity assumed), with ratings significantly higher in the past self song, than in the present self song ( $p=.006$ ). Descriptions about the personal self (personality features) were strongly represented in each of the three song time points (>20%) and there was little difference in their representation across the three songs,  $F(2,22)=1.37, p=.276, \eta_p^2 = .110$  (sphericity assumed). The academic/vocational and social self subdomains were

not strongly represented in the lyrics suggesting that people did not define themselves primarily according to their career and social life. Nevertheless, there was a small decrease in references to the academic/vocational and social self, and a small increase in spiritual self references, from past to present self songs. Post hoc analyses confirmed that ratings of moral, social, academic and personal content did not significantly change over songs (moral:  $F(2,22)=1.765$ ,  $p=.195$ ,  $\eta_p^2 = .138$  (sphericity not assumed), social:  $F(1.32, 14.54)=4.035$ ,  $p=.054$ ,  $\eta_p^2 = .268$  (sphericity not assumed), academic:  $F(1.12, 12.27)=1.29$ ,  $p=.284$ ,  $\eta_p^2 = .105$  (sphericity not assumed) and personal:  $F(2,22)=1.366$ ,  $p=.276$ ,  $\eta_p^2 = .140$  (sphericity assumed).

### **Discussion**

The results of our deductive content analysis of lyric content showed interesting trends in representation of self-concept subdomains across the three time points. Overall, participants wrote longer songs about their present self (and therefore more coded lyrics) and the least number of lyrics about the future. Longer songs may reflect the high degree of self-change being processed during the creation of a song about the present. They may have also had to process more confronting and challenging material in all the self-concept subdomains when focusing on the present. Furthermore, the present is likely to be more tangible and easy to access as people may find it easier to write about what they are thinking and feeling right now, perhaps because it has more immediate relevance. The future is less known and particularly so for people who have recently experienced such a life-impacting injury. The lack of predictability in the extent of their recovery, their ability to adapt to ongoing impairments, and how their relationships might change, mean that writing about the future self is likely to be considerably less detailed or concrete than other songs. These findings hold clinical relevance for music therapists working in rehabilitation as they demonstrate preliminary indicators of how the process of self-change works for patients undergoing inpatient rehabilitation. Specifically, and understandably, there was a noticeable increase in focus on physical self from past to present song category likely reflects the significant physical changes that most people face after a spinal or brain injury. Physical impairments are in the forefront of people's minds during their active rehabilitation phase as they work to regain as much function and independence as possible. This is important for music therapists to be aware of when conducting interventions focusing on self-concept,

to allow the time and space for this physical aspect of the self to be explored fully. The changes in physical function are also likely to have been highlighted for participants in their present self song, particularly in contrast to the pre-injured physical self that was the focus of song 1. The higher focus on physical self also remained to a lesser degree in the future self song, as participants questioned how their altered physical function would affect their future ability to carry out life roles that contribute to their definition of self. Physical function also affects a person's ability to carry out many other life roles, including family responsibilities, work, and recreational pursuits. It is not surprising then that the physical self-concept subdomain dominated the present ~~and future~~ song. This change in focus on physical self over the three songs indicates that songwriting may indeed have a positive role to play in processing changes in physical function and how these changes impact a person's overall sense of self. The therapeutic songwriting protocol used in this study allowed participants to explore different aspects of the self to varying degrees when focusing on the change in self-perception over time. However it also prompted exploration of all self-concept subdomains, thus highlighting not only changes, but enduring aspects of the self. This is central to the adjustment process and the development of a new and integrated self-concept.

The findings from our lyric analysis support Lennon et al's (2014) theory that experiencing traumatic injuries can have a positive impact on the self. Analysis of the song lyrics suggested that overall, the participants in our study appeared to gain strength, became more open-minded about life more generally, re-evaluated their priorities, and began to appreciate the importance of meaningful relationships. Lennon et al. (2014) proposed that negative perspectives of the self were often followed immediately by positive aspects of the self, and indeed this was evident in many of the song lyrics created by the participants in our study. For example, in KB's first song, he says "Sad moments, happy moments, it's hard but good fun". In his third song, he states " I lost my legs, but not my hope, My wheels are now my feet", again illustrating the balance between the negative with the positive perspectives. AS also illustrates this phenomenon when she says "My body may be broken, but my mind has been set free, and its improved my personality". These lyrics illustrate the oscillation between the positive and negative that Muenchberger et al. (2008) propose people with neurological

injuries experience as they compare past and present and work towards an integration of the injury into their lives.

### **Methodological issues associated with the study**

The high inter-rater agreement was likely a result of the deductive nature of the coding and the fact that the self-concept subdomains used for coding were also the focus of the songwriting intervention. As described elsewhere (removed for blind review), the intervention protocol specifically guided the participants to discuss all the subdomains and then through a process of identifying the most salient of these, to create lyrics to reflect the subdomains that were most reflective of their sense of self. The few discrepancies in rating occurred when the lyric was more obscure or abstract. In these cases, the second author was often better able to interpret the meaning of the lyric due to her involvement in the songwriting process with the participant. As the music therapist guided the songwriting experience, the therapist's prompting may have influenced the extent to which some themes were present in the song. While the therapist is trained to ensure the song expresses the "voice" of the person with neurological injury, there may have been instances in re-directing the participant's attention to the task at hand, which may have impacted the direction of the discussion about the self, and inadvertently, influenced which subdomains were expressed in the songs.

Another limitation associated with the study was that the lyrics were not analysed in tandem with the music. The music within song creations has the potential to express conflicting or ambiguous emotions (Baker, 2015a/ 2015b). For example, in the song about the future created by participant 10 (BR), in his lyrics, he expresses a sense of hope ("I remain hopeful that things will work out") and yet the positive lyrics are juxtaposed with minor harmonies and descending melodies, conveying mixed emotions, an internal struggle. It's as if the music he expresses signals that he does not truly believe what is said in his words. Future investigations would benefit from a simultaneous analysis of musical content to provide an indication of the extent of conflicting emotions portrayed in the songs.

Finally, the sample size was relatively small, reducing the power of statistical analyses considerably, particularly given the exploratory nature of the comparisons. A number of non-

significant trends were observed – for instance, differences between self-concept subdomain content within the future self song - which would be of interest to explore further with a larger sample size.

### **Conclusion**

Our in depth examination of the song stories people with spinal cord or brain injury created during a purposefully designed intervention targeting the self-concept illustrates how a creative process can be used to enable people to reflect on all subdomains of their past, present, and future self-concept. The engagement of music and lyric writing processes created opportunities for personal stories to be told, emotional responses to these stories to be expressed, and engagement in a self-reflection process. The analysis process confirmed that songwriting is a vehicle that allows for exploration of self-concept in individuals with neurological impairments that may not have emerged through other verbally-mediated interventions.

The findings suggest that during the active phase of rehabilitation (song about the present self), there is a clear focus on the physical self and on the personal self and there is a tendency for spiritual and moral reflections to emerge when compared with other self concept subdomains. As participants move to an imagined future self, their song lyrics implied that they viewed their lives as more balanced as evidenced by increases in lyrics representing all other subdomains of the self.

Our study highlights how songwriting is an accessible and psychologically important creative process that helps facilitate the renegotiation of self following severe injury. Importantly, this study provides insight into how the creative processes involved in songwriting may assist people to explore multiple facets of the self-concept in meaningful ways and allows them a socially acceptable medium to express ambivalence and the oscillation between the positive and negative perspectives of the self. Future research should seek to understand the process and outcomes of this intervention in greater detail.

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