

# FREEDIVING AS A MINDFULNESS PRACTICE FOR TRAUMA RESILIENCE

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## Abstract

Exploring the deep blue sea through freediving is a physical activity and a practice that can foster personal growth and shares several parallels with mindfulness. Our research investigates how freediving sessions contribute to the resilience of individuals who have experienced a dramatic life-changing event. Our main results show that freediving sessions afford participants an opportunity for introspection and acceptance of dramatic life-changing events they had to face. Notably, the trip facilitated their integration into a supportive community, providing them with social reinforcement. Importantly, all participants continued practicing apnea post-trip.

**Keywords:** *Quality of life, trauma resilience, mindfulness practice, freediving, health intervention.*

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## 1. Introduction

Life-changing accidents can be emotional or relational events such as bereavement, a break-up, conflict, illness, a health crisis, or redundancy (Denis, 2022). After such an event, people may experience mental health issues. In this context, we explore how a new therapeutic approach through freediving can improve resilience and quality of life. Mindfulness practices are well known for their benefits in many areas: they help reduce post-traumatic stress symptoms (Boyd, Lanius & McKinnon, 2018), and symptoms of anxiety and depression (Hoge et al., 2018; Kenny & Williams, 2007). Gardi, Fazia, Stringa, and Giommi (2022) have also shown that these practices correlate with lower stress hormone cortisol levels. Mindfulness-based physical activity is a low-intensity, inward-looking activity performed with deep concentration (La Forge, 2005). In this sense, freediving shares several common points with mindfulness and introspection. By the way, a recent study underscores the activation of identical brain regions during meditation and apnea (Annen et al., 2021).

## 2. Methodology: Research objectives, instrumentation and sample

Our exploratory research used a mixed design to investigate how freediving sessions contribute to the resilience of individuals who have experienced a dramatic life-changing event. We collected qualitative data using semi-structured interviews and quantitative data through two psychometric instruments: the *Five Facet Mindfulness Questionnaire* (FFMQ) (Bear et al., 2008), which assesses five dimensions of mindfulness, and the *Connor-Davidson Resilience Scale* (CD-RISC) (Connor & Davidson, 2003), which measures three dimensions of resilience. We used the French-language versions of these two tests, validated by Heeren et al. (2011) for the FFMQ and Guilhard et al. (2018) for the CD-RISC. We first conducted a descriptive analysis of the results, highlighting key trends. We also operated a thematic analysis of the semi-structured interviews, following Braun and Clark's method (2006).

Our inclusion criteria were to be an adult who had experienced one or more dramatic life-changing events and chose to participate in freediving sessions during scuba diving trips for more than five days. Each participant had to be proficient in French (the language in which the interviews were conducted). This study's sample consists of 10 subjects in total.

## 3. Results

### 3.1. Demographic characteristics of the sample

The sample included six women and four men; their average age was 45 years (min = 31; max = 67). Nine participants were French and one Swiss. Some participants reported having experienced one life-changing accident (N = 7), others two (N = 2) or three (N = 1). The nature of dramatic life-changing

events are *physical illness* (N = 4), *separation* (N = 4), *bereavement* (N = 3), *burn-out* (N = 1), *mental illness* (N = 1) and *work accident* (N = 1).

### 3.2. Main results

First, we questioned the reasons for undertaking a scuba-diving trip. Our respondents mainly chose to do it to seek relief (N =4) and escape from everyday life (N =4). They also need to explore new experiences (N =3) and increase self-confidence (N =3).

Table 1 shows the scores of the 10 participants on the five dimensions of the FFMQ scale, their total score, and the scores of the French validation sample carried out by Heeren et al. (2011). The results show that the mean scores of our sample are higher in all dimensions than the mean scores of the validation sample. This validation sample consists of 214 French-speaking people who have never practiced mindfulness exercises. In addition, semi-directive interviews revealed that apnea sessions enabled 9/10 participants to increase their level of mindfulness: *"I focus on the sensation of the water on my skin, on the temperature of the water"*.

Table 1. Average results of the FFMQ for our sample and the validation sample.

		Means of our sample	Means of the validation sample
<b>Dimensions of FFMQ</b>	<i>Observation</i>	33.1	24.43
	<i>Description</i>	31.8	25.81
	<i>Acting with awareness</i>	28.1	27.29
	<i>Nonjudging</i>	28.6	27.79
	<i>Nonreactivity</i>	21.3	18.79
	<b>Mindfulness</b>	<b>142.9</b>	<b>124.11</b>

Concerning resilience, Table 2 shows that participants' results on the CD-RISC scale do not globally differ from those obtained by the francophone validation sample of 524 participants (Guilhard et al., 2018). However, thematic analysis of the semi-structured interviews highlights that apnea practice promotes some resilience factors. Seven participants mentioned "future projects" linked to diving. According to Dubé, Lapierre, Bouffard, and Alain (2010), having projects helps subjects to look to the future, and thus contributes, in a way, to increase their capacity for resilience. Several participants also mentioned the "social support" provided by the freediving community (N =5). Social support strengthens resilience (Cyrulnik, 2013). Finally, all participants (N = 10) said they wanted to continue freediving after their stay.

Table 2. Average results of the CD-RISC for our sample and the validation sample.

		Means of our sample	Means of the validation sample
<b>Dimensions of CD-RISC</b>	<i>Tolerance to negative affects</i>	29.6	27.15
	<i>Tenacity</i>	18.8	17.85
	<i>Self-confidence</i>	10.8	11.45
	<b>Resilience</b>	<b>59.2</b>	<b>56.45</b>

### 4. Discussion

Our respondents mainly desired to engage in freediving sessions during their scuba diving trip to find a temporary refuge and reconnect with themselves. They seek for relaxation, personal plenitude, and exploration of new experiences. Moreover, freediving helps to develop the "mindfulness state" (being fully aware during the activity) but also improves the "mindfulness trait" (living daily life with full awareness). Indeed, scientific literature revealed freediving can increase state-level mindfulness (Alkan & Akis, 2013). This practice also offers the opportunity to develop resilience factors. Depending on their personal experiences and individual needs, people who have experienced dramatic life-changing events can rely on different elements to help them progress in their resilience path (Cyrulnik, 2013). For this study, the inclusion criteria did not require a diagnosis of post-traumatic stress disorder (PTSD). As Denis (2022) points out, psychologists consider that any sudden event has the potential to cause trauma in the individual. Consequently, we selected participants who had experienced a life accident based on their subjective experience. Unfortunately, the difference in size of our sample (N = 10) with the validation samples of the two standardized tools (N = 214 and N = 524) did not allow us to carry out valid statistical analyses. In the

future, surveying a larger sample of freedivers to make robust statistical comparisons would be relevant. Forthcoming studies could also include a measure of personality assessment to see whether some “profiles” would be more predestined to choose freediving (and mindfulness practices in general) as a resilience strategy after an event experienced as traumatic.

## 5. Conclusion

Freediving sessions afford participants an opportunity for introspection and acceptance of dramatic life-changing events they had to face. They also facilitated their integration into a supportive community, providing them with social reinforcement. The FFMQ scale results reveal that participants obtained significantly higher than average levels of mindfulness. Moreover, through freediving, they identified areas for personal improvement that could elevate their quality of life and reduce negative emotions. We noticed that after the trip, all participants continued practicing freediving. Therefore, this personal development retreat seems to be a gateway to a new perspective on life. Dramatic life-changing events are often associated with negativity but also represent opportunities for personal growth.

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