

Resilience is an individual's ability to adapt to stress and adversity that allows the individual to tolerate their quality of life in a dynamic process (Garcia-Dia et al., 2013; Masten & Obradovic, 2006). However, resilience seems to be more than just "tolerating" life; it is "reacting positively" to adversity. According to a psychologist named Boris Cyrulnik, modern neuroscience techniques have confirmed that the absence of sensory stimulation during periods of maximal synaptic expansion provides the substrate for a subsequent mood disorder (Cyrulnik, 1992; 2005). He argued that people can use resilience in every difficult circumstance, whether that could be a physical or psychological challenge. It is also important to understand how those people can triumph over adversity, especially in the case of children reared in orphanages and children who are abused, due to their ability to react positively to challenging situations. The characteristics of resilience are most often identified within the context of disruptive life events in the area of psychiatry and social behavior (Holaday & McPhearson, 1997); however, the emphasis can also be applied to musculoskeletal injuries.

A recent study indicated a balance should be established between defended and resilience-based conceptions of health and safety (Leclercq, Cuny-Guerrier, Gaudez & Aublet-Cuvelier, 2015). As the majority of musculoskeletal injuries manifest themselves through slips, trips and falls, these events have a strong impact on risk perception and on approaches necessary to ensure sustainable prevention. Research should also be extended to enhance an in-depth understanding of controls impacting worker movements when performing a task, while safeguarding health and safety (Leclercq, Cuny-Guerrier, Gaudez & Aublet-Cuvelier, 2015). It is evident that a greater resilience possibly allows for a decrease in these events or a greater ability to cope with the events. This commentary provides consideration for future clinical research on low back pain (LBP), resilience and interactions with psychosomatic as well as somatopsychic aspects to improve quality of life.

One of the most common musculoskeletal dysfunctions is LBP. There is a 24% to 87% rate of recurrence within one year in those who have recovered from an episode of LBP (Pengel, Herbert, Maher & Refshauge, 2003; Stanton et al., 2008). Several studies have reported poor coordination of balance performance in subjects with recurrent LBP (Brumagne et al., 2000; Sung and Park, 2009; Tsao et al., 2010). It is generally accepted that individuals with recurrent LBP possess altered proprioceptive postural control as well as less refined positional sense (Brumagne et al., 2008; Sung, 2013; Tsao & Hodges, 2008). In addition, those who are distressed from LBP could be characterized by psychological factors corresponding to pain-related coping strategies (Viniol et al., 2013). For example, those who have a low resilience might respond poorly to adversity and to treatment strategies for LBP. However, there is a lack of understanding about altered kinematic and kinetic changes related to resilience in subjects with LBP.

Although instruments were designed to quantify facets of resilience, few scales have been implemented to measure resilience

as a process (Friborg et al., 2003; Smith et al., 2008). A person with an increasing number of health-related stressors encounters the risk of poor mental health caused by more depression/anxiety, but also somatic health due to symptoms of severe musculoskeletal pain (Friborg et al., 2015). It was suggested that those who are more resilient might endure various psychosomatic or mental health challenges with proper adjustment strategies (Ponce-Garcia, Madewell & Kennison, 2015). Their results indicated that the low-resilient group scored significantly lower on all subscales of the protective factor with marked differences in prioritizing and planning behavior. However, there are a couple of ways to quantify changes for a better quality of life-not only through a psychological point of view, but also a physical approach to functional activities.



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