

PRIMJENA MINDFULNESSA U PODRUČJU EDUKACIJSKE REHABILITACIJE

THE USE OF MINDFULNESS IN THE FIELD OF EDUCATION AND REHABILITATION

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Sažetak: Mindfulness (usredotočena svjesnost) se odnosi na proces usmjeravanja pažnje, odnosno svjesnost o onome što se događa u našem umu, tijelu i vanjskoj okolini u sadašnjem trenutku, sa stavom prihvaćanja, neprosuđivanja, prijateljstva i otvorenosti. Različita istraživanja iz područja medicine, psihologije, neuroznanosti i drugih srodnih disciplina ukazuju na to da provođenje mindfulness programa i tehnika može imati brojne dobrobiti kod različite populacije korisnika u području poticanja psihofizičke homeostaze, emocionalne samoregulacije i uspješnijih socijalnih odnosa. Na temelju ovih spoznaja definiran je cilj ovoga rada koji se odnosio na pregled i analizu rezultata dosadašnjih istraživanja u svrhu razmatranja načina i učinkovitosti primjene mindfulnessa u području edukacijske rehabilitacije, usljedećim skupinama korisnika: 1) djeca s teškoćama u razvoju / osobe s invaliditetom, 2) roditelji, 3) stručnjaci uključeni u edukacijsko-rehabilitacijski proces. Rezultati recentnih istraživanja, obuhvaćenih pregledom literature u ovom radu, upućuju na pozitivne utjecaje mindfulnessa, na tjelesne, psihoemocionalne i socijalne dimenzije temeljene na promjenama u neurološkom i endokrinološkome statusu te aktivnostima autonomnog živčanog sustava. Promjene se također očituju u doživljaju sebe, kvaliteti međuljudskih odnosa, razini percipiranog stresa te usvojenim tehnikama i strategijama suočavanja s nepovoljnim životnim situacijama. Također, uočena je potreba provođenja daljnjih znanstvenih i primijenjenih istraživanja koja bi doprinijela brojnijoj i učinkovitijoj primjeni mindfulnessa u području edukacijske rehabilitacije.

Ključne riječi: edukacija, rehabilitacija, mindfulness, učinkovitost

Abstract: Mindfulness is the practise of being attentive, i.e., being aware of what is going on in the present moment in our mind, body, and external environment with an attitude of acceptance, non-judgment, kindness, and openness. Several studies in the fields of medicine, psychology, neuroscience, and other related disciplines have suggested that the use of mindfulness programmes and techniques can have numerous benefits for various user groups such as inducing psychophysical homeostasis, improving emotional self-regulation, and maintaining successful social relationships. Based on these findings, the aim of this study was to review and analyse the results of previous research on the possibilities and effectiveness of using mindfulness in the field of education and rehabilitation in relation to the following user groups: 1) children with developmental disorders/people with disabilities, 2) parents, and 3) professionals of various disciplines involved in the process of education and rehabilitation. The results of recent research that was included in our literature review indicate the positive effects of mindfulness on physical, psycho-emotional, and social dimensions based on changes in neurological and endocrinological status, as well as autonomic nervous system activities. Changes were also reflected in self-experience, quality of interpersonal relationships, levels of perceived stress, as well as the techniques and coping strategies used to deal with adverse life situations. In addition, the need for further scientific and applied research was identified, which can contribute to facilitating the effective use of mindfulness in the field of education and rehabilitation.

Keywords: education, rehabilitation, mindfulness, effectiveness

UVOD

Pojam *mindfulness*, (ili kako se u hrvatskom jeziku prevodi: usredotočena svjesnost, pomnost, sveprisutnost, puna svjesnost ili svjesna pažnja) predstavlja stanje usmjeravanja pozornosti na sadašnjost sa stavom prihvaćanja, neprosuđivanja, prijateljstva i otvorenosti (Baer, 2003; Kabat-Zinn, 2015). *Mindfulness* predstavlja stanje svijesti, ali i primjenu niza tehnika kojima se pažnja fokusira na vlastite osjećaje, misli i senzacije u tijelu kao i na različite podražaje iz okoline koji se događaju u sadašnjem trenutku (Bishop i sur., 2004; Kabat-Zinn, 2005). Prakticiranje *mindfulnessa* opravdava svoju primjenu u različitim situacijama, posebno u današnjim vrlo zahtjevnim životnim uvjetima, u okviru gdje ljudi pokazuju sve veću sklonost da značajnu količinu vremena provode razmišljajući o događajima iz prošlosti, predviđajući događaje u budućnosti i strahujući o nečemu što se nikada neće dogoditi. Takvo „lutanje uma“ i ometajuće misli mogu dovesti do negativnih emocionalnih posljedica i smanjene kvalitete života (Killingsworth i Gilbert, 2010). *Mindfulness* predstavlja jedan od pristupa koji omogućuje da zadržimo svoju svjesnost i pažnju te da reduciramo ili uklonimo ponavljajuće (ruminirajuće) obrasce mišljenja i emocija (Brown i Ryan, 2003). Na temelju sve većeg broja istraživanja i dokaza o dobrobitima primjene *mindfulnessa* javlja se sve veći interes za njegovu primjenu u području medicine, neuroznanosti, psihologije edukacija, rehabilitacije i drugih srodnih disciplina.

Koncept *mindfulnessa* potječe iz budističke filozofije temeljen na ideji življenja „ovdje i sada“, kao i iz iskustva prakticiranja različitih specifičnih tehnika meditacije (Rapgay i Bystrisky, 2009; Creswell, 2017). Unatoč svom porijeklu, ovaj je pristup sekularan, odnosno, neovisan o bilo kojoj ideologiji, sustavu vjerovanja, ili vjerskoj pripadnosti (Braun, 2017). Bit *mindfulnessa* univerzalna je i obuhvaća specifičan način fokusiranja pažnje i svjesnosti, kao i načelo održavanja blagosti, ljubavnosti i suosjećanja prema sebi i drugima (Kabat-Zinn, 2005). Iz tog razloga može se primjenjivati u različitim socijalnim zajednicama, kao i u okviru zdravstvene i socijalne skrbi, rehabilitaciji, obrazovanju, radnom okruženju, savjetovanju, psihoterapijskoj podršci i dr. Integracija *mindfulnessa*

INTRODUCTION

The concept of mindfulness represents a state of full attention to the present moment with an attitude of acceptance, non-judgment, kindness, and openness (Baer, 2003; Kabat-Zinn, 2015). In addition to mindfulness being referred to a state of awareness, it involves the use of various techniques aimed at focusing attention on one's own feelings, thoughts, bodily sensations, as well as various stimuli from the environment that occur in the present moment (Bishop et al., 2004; Kabat-Zinn, 2005). The practise of mindfulness justifies its application in various situations, especially in today's highly demanding life circumstances, where people tend to spend a lot of time thinking about past events, predicting future events, and fearing circumstances that may never happen. This "wandering of the mind" and intrusive thoughts can lead to negative emotional consequences and a reduced quality of life (Killingsworth & Gilbert, 2010). Mindfulness is an approach that allows us to maintain our awareness and attention, while reducing or eliminating repetitive (ruminative) emotions and patterns of thinking (Brown & Ryan, 2003). With the growing body of research and evidence supporting the benefits of mindfulness practices, there is increasing interest in its application in the fields of medicine, neuroscience, psychology, education, rehabilitation, and other related disciplines.

The concept of mindfulness has its origins in Buddhist philosophy, and it is based on the idea of living in the "here and now", as well as on the experience of practising various specific meditation techniques (Rapgay & Bystrisky, 2009; Creswell, 2017). Despite its origins, this approach is secular, meaning that it is independent of any ideology, belief system, or religious affiliation (Braun, 2017). The essence of mindfulness is universal and it includes a specific way of focusing one's attention and awareness, as well as the principle of supporting gentleness, kindness, and compassion towards one's self and others (Kabat-Zinn, 2005). For this reason, it can be applied in various social communities, health and social care, rehabilitation, education, the workplace, counselling, psychotherapy, and many other areas. The inte-

u zapadnoj je civilizaciji započela u okviru nastojanja da se kroz jedinstvo duha i tijela razviju i usvoje tehnike koje mogu biti djelotvorne u upravljanju stresom i očuvanju mentalnog zdravlja (Salmon i sur., 2004). Začetnik takvog promišljanja bio je Jon Kabat-Zinn, koji je na Medicinskom fakultetu Sveučilišta u Massachusettsu 1979. godine sa svojim kolegama razvio program *Mindfulness Based Stress Reduction* (MBSR) kao tehniku namijenjenu smanjenju stresa (Samuelson, Carmody, Kabat-Zinn i Bratt, 2007). Znanstvena istraživanja koja su se provodila kontinuirano s provedbom ovog programa, s različitom populacijom korisnika, dokazala su da je njegova primjena utjecala ne samo na pozitivnije psihofizičke odgovore na stresne podražaje, već i na poboljšanje nekih drugih područja funkcioniranja kao što su kvaliteta sna, radna produktivnost, kvaliteta komunikacije, koncentracija, pamćenje, učenje, samoregulacija emocija, percepcija boli, smanjenje zabrinutosti i poticanje osjećaja mira, ugone i zadovoljstva (Davis i Hayes, 2011; de Vibe i sur., 2017, Lordanić, Tucak, Junaković, 2022, Pačić-Turk, Pavlović, 2020, Shapiro, Carlson, Sawyer, 2024).

Mindfulness programi

Prakticiranje *mindfulnessa* može biti formalno, što uključuje primjenu specifičnih tehnika naučenih tijekom pohađanja *mindfulness* programa te neformalno, što se odnosi na primjenu *mindfulness* stanja u okviru svakodnevnog života, odnosno na generalizaciju usvojenih vještina održavanja svjesne pažnje tijekom različitih aktivnosti poput razgovora, hranjenja, promatranja okoline i sl. (Creswell, 2017). Također, potrebno je razlikovati i *mindfulness* osobinu koja se definira kao predispozicija osobe da bude *mindful* u svojoj svakodnevici (Baer, Smith, Hopkins, Krietemeyer i Toney, 2006). Rezultati nekih studija, kao što je istraživanje autora Kiken, Garland, Bluth, Palsson i Gaylord (2015), ukazuju na to da dosizanje *mindfulness* stanja, primjenom specifičnih tehnika u okviru različitih programa, pozitivno utječe na podržavanje *mindfulness* osobine.

Na osnovi sve češće primjene *mindfulnessa*, koncipirani su različiti programi koji se međusobno razlikuju u odnosu na specifične tehnike ko-

gration of mindfulness into Western civilisation began as part of an effort to develop and adopt techniques that could be effective in managing stress and maintaining mental health through the unity of mind and body (Salmon et al., 2004). Jon Kabat-Zinn pioneered such thinking: Kabat-Zinn and his colleagues at the University of Massachusetts Medical School developed the Mindfulness-Based Stress Reduction (MBSR) programme as a stress reduction technique in 1979 (Samuelson et al., 2007). Since then, scientific research conducted on the implementation of this programme in various user groups has shown that its application has not only influenced more positive psychophysical responses to stressful stimuli, but has also improved other areas of functioning such as sleep quality, work productivity, communication, concentration, memory, learning, emotional self-regulation, pain perception, reduction of worry, as well as the encouragement of feelings of peace, pleasure, and satisfaction (Davis & Hayes, 2011; de Vibe et al., 2017, Lordanić, Tucak, Junaković, 2022, Pačić-Turk, Pavlović, 2020, Shapiro, Carlson, Sawyer, 2024).

Mindfulness programmes

Mindfulness practice can be formal (i.e.,) the use of specific techniques learned through participation in mindfulness programmes, or informal (i.e.,) the use of a state of mindfulness in everyday life or the generalisation of acquired skills to maintain mindfulness in various activities such as conversations, eating, observing the environment, and so on (Creswell, 2017). In addition, it is important to perceive mindfulness as a trait, which is defined as an individual's predisposition to be mindful in their daily life (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). The results of certain studies, such as those by Kiken et al. (2015), have suggested that achieving a state of mindfulness through the application of specific techniques in the context of various programmes positively influences the development of the mindfulness trait.

Due to the increasing use of mindfulness, various programmes have been developed that differ in the specific techniques uses, the way these

jima se koriste, na način njihove primjene i problemska područja na koja su usmjereni. Većina *mindfulness* programa obuhvaća različite tehnike induciranja usredotočene svjesnosti, od kojih su najčešće motrenje vlastitog disanja, treniranje fokusiranja pažnje, skeniranje tijela, otvorenu praksu promatranja, svjesnost pokreta i ljubaznost (Priatelj, Selak Bagarić i Kukulj, 2022).

Tako na primjer, *Mindfulness-Based Stress Reduction program* (MBSR) uključuje provedbu intenzivnog *mindfulness* treninga i integraciju *mindfulnessa* u područje svakodnevnog života (Samuelson i sur., 2007). Seanse objedinjuju određene vježbe meditacije i usredotočene svjesnosti temeljene na *mindful* yogi, skeniranju tijela i sjedećoj meditaciji u cilju poticanja promatranja i prihvaćanja tjelesnih senzacija, misli, osjećaja i podražaja iz okoline u trenutku u kojem se javljaju i sve to bez prosuđivanja. (Baer, Carmody i Hunsinger, 2012).

Mindfulness-Based Cognitive Therapy (MBCT) uključuje skeniranje tijela, sjedeću i hodajuću meditaciju, svjesne pokrete yoge, *trominutni prostor za disanje* te svjesnu usredotočenost u okviru svakodnevnih aktivnosti uz primjenu tehnika kognitivno-bihevioralne terapije (Segal, Williams i Teasdale, 2002). Namjera je ovog programa da se omogući osobama da postepeno prestanu provoditi automatske i disfunkcionalne rutine te da samoreguliraju proces ruminacije. Kao komplementarni terapijski pristup pokazao je svoju učinkovitost u ublažavanju depresije, anksioznosti, bipolarnog poremećaja i drugih mentalnih poremećaja (Williams i sur., 2008, Kim i sur., 2009).

Acceptance and Commitment Therapy (ACT) predstavlja program prihvaćanja i posvećenosti koji se koristi treningom svjesnosti i bihevioralnom aktivacijom s ciljem suočavanja s neugodnim mislima, osjećajima i senzacijama. Tijekom seansi mogu se primjenjivati priče, metafore, igre uloga te različiti primjeri iz života kako bi se potaknulo odvajanje od negativnih ideofektivnih sadržaja, psihološka fleksibilnost i usmjeravanje pažnje na ono što je važno i vrijedno (Biglan, Hayes i Pistarelo, 2008, Keng, Smoski i Robins, 2011).

Mindfulness-Based Positive Behavior Support (MBPBS) program je namijenjen roditeljima u svr-

techniques are applied, and the problem areas that they target. Most mindfulness programmes include various techniques for inducing focused awareness. Commonly used practices include mindful breathing, attention training, body scan, awareness observations, mindful movement, and kindness (Priatelj, Selak Bagarić & Kukulj, 2022).

For example, the MBSR programme involves intensive mindfulness training and the integration of mindfulness into everyday life (Samuelson et al., 2007). Sessions combine specific meditation exercises and mindfulness-based practices such as mindful yoga, body scan, and seated meditation, which aim to promote observation skills and the acceptance of bodily sensations, thoughts, feelings, and environmental stimuli as they arise without judging them (Baer, Carmody & Hunsinger, 2012).

Mindfulness-Based Cognitive Therapy (MBCT) includes body scan, sitting and walking meditation, mindful yoga movements, a three-minute breathing space, and mindful focus within daily activities. MBCT uses techniques from cognitive behavioural therapy (Segal, Williams, & Teasdale, 2002). This programme aims to gradually free the individual from automatic and dysfunctional routines in order to self-regulate the process of rumination. As a complementary therapeutic approach, it has been shown to be effective in alleviating depression, anxiety, bipolar disorder, and other mental disorders (Williams et al., 2008; Kim et al., 2009).

Acceptance and Commitment Therapy (ACT) is a programme of acceptance and commitment that uses mindfulness techniques and behavioural activation to confront unpleasant thoughts, feelings, and sensations. Sessions may include stories, metaphors, role-playing, and real-life examples that aim to promote detachment from negative affective content, psychological flexibility, and refocus one's attention on what is important and valuable (Biglan, Hayes & Pistarelo, 2008; Keng, Smoski & Robins, 2011).

Mindfulness-Based Positive Behaviour Support (MBPBS) is a programme designed for par-

hu osobne transformacije te učinkovitom upravljaju ponašanja djeteta (Singh, Lancioni, Medvedev, Hwang i Myers, 2021). Tijekom programa sudionici uče različite vrste meditacija i *mindfulness* praksu te se upoznaju s različitim tehnikama kao što su *početnički um*¹ i koncept *triju otrova*². Sudionici također usvajaju strategije kako primjenjivati *mindfulness* tijekom komunikacije i praćenja ponašanja djeteta, te tijekom davanja zahtjeva i pružanja podrške (Singh, Lancioni, Karazsia, Chan i Winton, 2016). Ovaj se program pokazao učinkovitim u smanjenju razine roditeljskog stresa, povećanju zadovoljstva roditeljskom ulogom kao i u poboljšanju interakcija na relaciji roditelj-dijete. Zahvaljujući roditeljskom *mindfulnessu*, veća je vjerojatnost pojave pozitivnih promjena u djetetovom ponašanju, posebice u populaciji djece s teškoćama u razvoju (Singh i sur., 2021).

Pozitivni učinci *mindfulnessa* na psihofizički status

S porastom primjene tehnika *mindfulnessa*, došlo je i do sve brojnijih istraživanja koja su imala za cilj proučiti mehanizme i rezultate njegovog prakticiranja u odnosu na neka stanja koja nastoji potaknuti i podržavati, a to su puna svjesnost, opažanje, opisivanje, svjesno postupanje, neprosuđivanje, nereaktivnost i dr. (Baer, Smith, Hopkins, Krietemeyer i Toney, 2006; Zhang, Lee, Ho i Wong, 2021; Canby, Eichel, Lindahl, Chau, Cordova i Britton, 2021). Tako su, na primjer, imajući u vidu očuvanje mentalnog zdravlja kao jednog od značajnih javnozdravstvenih interesa, McClintock, Rodriguez i Zerubavel (2019) proveli metaanalizu koja je pokazala da je provedba *mindfulness* treninga bila povezana s povećanjem *mindfulness* stanja i psihičkog blagostanja posljedično uzrokovanog smanjenjem stresa, anksioznosti i depresivnih simptoma kod ispitanika. Isto tako, prema Schroevers i Brandsma, (2010) viša razina *mindfulness* stanja u pozitivnoj je interakciji s poboljšanjem emocionalne regulaci-

ents on personal change and effective management of children's behaviour (Singh et al., 2021). Participants learn about different types of meditation and mindfulness practices and are introduced to techniques such as *the beginner's mind*¹ and the concept of *the three poisons*². They also acquire strategies for applying mindfulness in communication, observing the child's behaviour, and providing support (Singh et al., 2016). This programme has been shown to be effective in reducing parental stress levels, increasing satisfaction with the parental role, and improving parent-child interactions. Parental mindfulness increases the likelihood of positive changes in the child's behaviour, especially in children with developmental difficulties (Singh et al., 2021).

Positive effects of mindfulness on psychophysical well-being

With the increasing use of mindfulness, there is a growing body of research examining the mechanisms and outcomes of practising mindfulness in relation to the states of being that this practice tries to promote and support, including full awareness, observation, description, conscious action, non-judgment, non-reactivity, and so on (Baer, Smith, Hopkins, Krietemeyer & Toney, 2006; Zhang, Lee, Ho & Wong, 2021; Canby, Eichel, Lindahl, Chau, Cordova & Britton, 2021). Given that mental health is an important public health concern, McClintock et al. (2019) conducted a meta-analysis that showed that the implementation of mindfulness training is associated with an increase in the mindful state and the psychological well-being of participants as a result of reduction of stress, anxiety, and depressive symptoms. Similarly, according to Schroevers and Brandsma (2010), a higher level of mindfulness positively correlated with improved emotional self-regulation and reduced emotional lability and reactivity. In addition, a positive correlation was found be-

¹ Koncept početničkog uma pretpostavlja da pojedinac ono što doživljava pokušaj proživjeti kao da mu je to prvi put, odnosno iz nove perspektive (Kabat-Zinn, 2015)

² Tri otrova ili tri negativne kvalitete uma, prema budističkom shvaćanju, smatraju se glavnim uzrocima ljudske patnje, a uključuju pohlepu, gnjev i neznanje (Leifer, 1999)

¹ The concept of the beginner's mind assumes that the individual tries to experience something as if it were his first time (i.e.,) from a new perspective (Kabat-Zinn, 2015).

² The three poisons or three negative qualities of the mind are considered by Buddhists to be the main causes of human suffering and include greed, anger, and ignorance (Leifer, 1999).

je, te smanjenjem emocionalne labilnosti i emocionalne reaktivnost. Nadalje, utvrđena je pozitivna povezanost između *mindfulnessa* stanja, emocionalne svjesnosti i uspješnije diferencijacije pozitivnih od negativnih emocija (Hill i Updegraff, 2012). Slične rezultate, dobivene u okviru svojeg istraživanja, navodi Mihić (2019), prema kojima je uočena značajna pozitivna korelacija između nekih dimenzija usredotočene svjesnosti (*opisivanje, nereaktivnost, svjesno postupanje i opažanje*) i emocionalne kompetentnosti u populaciji adolescenata.

Hölzel i sur. (2011) u svojem su istraživanju pokušali utvrditi koje se neurološke promjene induciraju prakticiranjem *mindfulnessa* u povezanosti s promjenama u emocionalnom funkcioniranju i ponašanju te su zaključili da je provedba MBSR programa u ispitanika dovela do povećanja gustoće sive tvari u lijevom hipokampusu, posteriornom cingularnom korteksu, temporo-parijetalnoj spojnici i malom mozgu, dakle u onim regijama mozga koja su značajna za emocionalnu regulaciju, pamćenje, učenje, samoreferencijalne procese i razumijevanje perspektive drugih osoba. Nadalje, kako navode Creswell, Way, Eisenberger i Lieberman (2007), kod osoba kod kojih postoji sklonost bivanja u *mindful* stanju prisutna je povećana aktivacija prefrontalnog korteksa koji ima bitnu ulogu u procesu svjesnog doživljavanja emocija i emocionalne reaktivnosti.

Istraživanje autora Moll, Frolic i Key (2015) o utjecaju primjene MBSR programa kod zdravstvenih djelatnika pokazalo je značajno povećanje empatije, smanjenje simptoma sagorijevanja na poslu, *mindful* slušanja drugih ljudi, povećanu toleranciju, ublažavanje emocionalne reaktivnosti i unaprjeđenje vještina samoregulacije u konfliktnim situacijama. Tijekom fokus grupe, provedene godinu dana nakon provedbe programa, većina je ispitanika izvijestila da je nastavila prakticirati *mindfulness* koji je, prema njihovom mišljenju, pozitivno utjecao na komunikaciju i interpersonalne odnose s pacijentima, ali i članovima obitelji, a što je posredno djelovalo na ublažavanje posljedica stresa. Slične rezultate navode Hölzel i sur. (2010) koji su proveli istraživanje u kojemu je kod ispitanika koji su sudjelovali u MBSR programu utvrđeno smanjenje razine percipiranog stresa u povezanosti sa smanjenjem gustoće sive tvari u desnoj bazolateralnoj amigdali, za koju je poznato da ima značajnu ulogu u prepoznavanju

tween the mindful state, emotional awareness, and a more successful differentiation between positive and negative emotions (Hill & Updegraff, 2012). Similar research results are cited by Mihić (2019) who found a significant positive correlation between certain dimensions of focused awareness (description, non-reactivity, conscious action, and observation) and emotional competence in adolescents.

Hölzel et al. (2011) attempted to determine the neurological changes induced by mindfulness practice in relation to changes in emotional functioning and behaviour. The authors found out that the implementation of the MBSR programme led to an increase in grey matter density in the left hippocampus, the posterior cingulate cortex, the temporo-parietal junction, and the cerebellum, i.e., the regions of the brain that are important for emotional regulation, memory, learning, self-related processes, and understanding the perspectives of others. Furthermore, as Creswell et al. (2007) noted, individuals who tend to be in a mindful state also exhibit increased activation of the prefrontal cortex, which plays a crucial role in emotional awareness and emotional reactivity.

A study by Moll et al. (2015) on the impact of using the MBSR programme in healthcare professionals showed a significant increase in empathy, a reduction in burnout symptoms at work, mindful listening to others, increased tolerance, reduction in emotional reactivity, and improvement in self-regulation skills in conflict situations. In focus group discussions, conducted one year after the implementation of the programme, most participants reported that they continued mindfulness practices: in their opinion, these practices positively influenced communication and interpersonal relationships with patients, as well as family members, and thus, indirectly mitigated the effects of stress. Similar findings are reported by Hölzel et al. (2010) who conducted a study in which participants who took part in the MBSR programme showed a reduction in perceived stress levels associated with a decrease in grey matter density in the right basolateral amygdala, which is known to play a significant role in the detection of stress-

stresnih podražaja i pokretanju mehanizama adaptivnog suočavanja (LeDoux, 2000).

Practiciranje *mindfulnessa* također može pozitivno utjecati i na neke druge psihičke i kognitivne funkcije. Tako su, na primjer, Moore i Malinowski (2009) utvrdili da su ispitanici koji su svakodnevno prakticirali *mindfulness* meditacije, u odnosu na ispitanike iz kontrolne skupine, postigli bolje rezultate u zadacima koji su ispitivali pažnju i kognitivnu fleksibilnost. Značajno poboljšanje u području radne memorije, vizuo-spacijalnog procesiranja, izvršnih funkcija, te sposobnosti zadržavanja pažnje također je potvrđeno kod studenata koji su provodili četverodnevni trening *mindfulness* meditacije u trajanju od 20 minuta (Zeidan, Johnson, Diamond, David i Goolkasian, 2010). Istraživanje o utjecaju primjene MBSR programa, koje su proveli Jensen, Vangkilde, Frokjaer i Hasselbalch (2012), ukazalo je na to da su se na uzorku ispitanika koji su sudjelovali u ispitivanju značajno poboljšali selektivna pažnja i kapacitet radne memorije. Prema rezultatima istraživanja Tomasino i Fabbro (2016), poboljšanje navedenih funkcija može se objasniti povećanom aktivacijom dorzolateralnog prefrontalnog korteksa čija je uloga značajna u procesu fokusiranja pažnje. Isti autori također su, u svojim praćenjima neuroloških promjena pod utjecajem *mindfulnessa*, zabilježili povećanu aktivaciju lijeve insule koja je bitna za postojanje svjesnost o tijelu, budući da je povezana s interoceptijom, ali je također uključena u neke druge aktivnosti poput metakognitivne procese i emocionalnu samosvijest (Prijetelj i sur., 2022).

Uz strukturalne neurološke promjene pojedini su autori pratili i druge neurofiziološke promjene koje se događaju u povezanosti s pozitivnim ishodima prakticiranja *mindfulnessa*. Tako su, na primjer, u evaluaciji utjecaja *mindfulness* u području ublažavanja stresa, Aguilar-Rabb i sur. (2021) dobili rezultate prema kojima je ova vrsta intervencije u eksperimentalnoj grupi ispitanika inducirala smanjenje alfa-amilaze u slini, što upućuje na smanjenje simpatičke aktivacije autonomnog živčanog sustava. Bellosta-Batala i sur. (2020) analizirali su biološke varijable kao pokazatelje psihosocijalnih reakcija potaknute primjenom kratkotrajnih *mindfulness* seansi te su kod ispitanika ustanovili smanjenje anksioznosti te porast lučenja oksitocina, odnosno, neuropeptivnog hormona koji je povezan s osjećajem suosjećanja, prihvatanja i

ful stimuli and the initiation of adaptive coping mechanisms (LeDoux, 2000).

Practising mindfulness can also have a positive effect on other psychological and cognitive functions. For example, Moore and Malinowski (2009) found that participants who practiced daily mindfulness meditation performed better on tasks assessing attention and cognitive flexibility than those in the control group. Significant improvements in working memory, visuospatial processing, executive functions, and attentional control were also found in students who participated in a four-day, 20-minute mindfulness meditation training programme (Zeidan, Johnson, Diamond, David & Goolkasian, 2010). A study conducted by Jensen et al. (2012) on the effects of implementing MBSR programmes showed a significant improvement in participants' selective attention and working memory capacity. According to the results of the study by Tomasino and Fabbro (2016), the improvement in these functions can be explained by increased activation of the dorsolateral prefrontal cortex, which plays an important role in attention-focusing processes. The same authors also recorded increased activation of the left insula, which is essential for body awareness and interoception, but is also involved in other activities such as metacognitive processes and emotional self-awareness (Prijetelj et al., 2022).

In addition to structural neurological changes, some authors have also investigated other neurophysiological changes associated with the positive outcomes of mindfulness practice. For example, when evaluating the effects of mindfulness on stress reduction, Aguilar-Rabb et al. (2021) reported that this type of intervention led to a decrease in salivary alpha-amylase in the experimental group, suggesting a reduction in sympathetic activation of the autonomic nervous system. Bellosta-Batala et al. (2020) analysed biological variables as indicators of psychosocial responses triggered by short-term mindfulness sessions and found a decrease in anxiety levels, as well as an increase in oxytocin secretion, a neuropeptide hormone associated with the feelings of compassion, acceptance, and connectedness. A systematic review of research focusing on elec-

privrženosti. Sustavni pregled rezultata istraživanja usmjerenih na EEG oscilacije pokazao je da je *mindfulness* povezan s povećanim alfa i theta valovima koji doprinose podržavanju opuštenog stanja budnosti (Lomas, Ivtzan i Fu, 2015).

Različite meta-analize potvrdile su da *mindfulness* meditacija može pozitivno utjecati na razinu imunološki povezanih fizioloških markera upale i biološkog starenja, smanjenje aktivnosti staničnog transkripcijskog faktora NF-kB, smanjenje cirkulirajućih razina C-reaktivnih proteina i aktivnost telomeraze (Black i Slavich, 2016), te smanjenje fizioloških markera stresa kao što su kortizol, sistolički krvni tlak, broj otkucaja srca, razina triglicerida i dr. (Pascoe, Thompson, Jenkins i Ski, 2017). Rezultati istraživanja autora Mitsea, Drigas i Skianis (2022) potvrdili su početnu hipotezu prema kojoj *mindfulness* trening smanjuje hormone stresa dok povećava lučenje hormona i transmitera koji su u pozitivnoj korelaciji sa stanjem opuštenosti, pozitivnosti i zadovoljstva. U svom su istraživanju primjenjivali i virtualnu stvarnost koja je olakšala uvjete treninga, optimizirala iskustvo i povećala učinkovitost intervencija. Zaključak je autora da prakticiranje usredotočene svjesnosti predstavlja oblik meta-kognitivnog treninga putem kojeg pojedinci mogu preuzeti kontrolu i uravnotežiti fiziološke mehanizme koji su povezani s raspoloženjem i pozitivnim doživljajem sebe.

PRIMJENA MINDFULNESSA U PODRUČJU EDUKACIJSKE REHABILITACIJE

S obzirom na to da se u djece s teškoćama u razvoju i osoba s invaliditetom mogu javiti mnogobrojne posljedice u različitim dimenzijama funkcioniranja, u posljednje se vrijeme sve više promišlja o provedbi različitih holističkih i kompletnih pristupa u cilju podržavanja njihovog psihoemocionalnog i socijalnog statusa. U tom se smislu razmatra i primjena *mindfulnessa*, budući da su dosadašnja istraživanja pokazala da u ovoj populaciji on može biti učinkovit u području poticanja emocionalne samoregulacije (Kim i Kwon, 2017; Singh i sur., 2013), te usvajanja akademskih vještina (Beauchemin, Hutchins i Patterson, 2008) i socijalnih vještina (Esmmaeel-

troencephalogram (EEG) oscillations showed that mindfulness is associated with increased alpha and theta waves, which helps maintain a relaxed state of wakefulness (Lomas, Ivtzan & Fu, 2015).

Various meta-analyses have confirmed that mindfulness meditation can positively influence the level of immune-related physiological markers of inflammation and biological aging, reduce the activity of the cellular transcription factor NF-kB, as well as lower circulating levels of C-reactive protein and telomerase activity (Black & Slavich, 2016), and the levels of physiological stress markers such as cortisol, systolic blood pressure, heart rate, triglyceride levels and others (Pascoe et al., 2017). The results of the study conducted by Mitsea et al. (2022) confirmed the hypothesis that mindfulness training reduces stress hormones, while increasing the release of hormones and neurotransmitters that are positively correlated with relaxation, positivity, and contentment. In their study, they also used virtual reality to facilitate the training conditions, optimise the experience, and increase the effectiveness of the interventions. The authors concluded that practising mindfulness is a form of metacognitive training through which the individual can take control and balance the physiological mechanisms associated with mood and positive self-experience.

MINDFULNESS IN EDUCATION AND REHABILITATION

Recognising that children with developmental disorders and persons with disabilities can experience a variety of effects on different dimensions of functioning, growing attention is being given to the implementation of various holistic and complementary approaches to support their psychosocial and social status. In this context, the use of mindfulness is being considered since previous research has demonstrated its effectiveness in promoting emotional self-regulation (Kim & Kwon, 2017; Singh et al., 2013), as well as in the acquisition of academic (Beauchemin, Hutchins, & Patterson, 2008) and social skills (Esmmaeelbeygi et al., 2020) in this population. In addition, family members and professionals from various disciplines involved in treatment, education, and reha-

beygi, Alamdarloo, Seif i Jabbari, 2020). Također, njihovi članovi obitelji te stručnjaci različitih disciplina koji sudjeluju u liječenju, edukaciji i rehabilitaciji, suočavaju se s brojnim izazovima na radnom mjestu, kao i u svakodnevnom životu, što ponekad zahtijeva provedbu dodatnih intervencija u cilju ublažavanja negativnih stresnih reakcija i očuvanja fizičkog i mentalnog zdravlja. Na temelju navedenog, definiran je cilj ovoga rada koji se odnosio na pregled i analizu rezultata dosadašnjih istraživanja u svrhu razmatranja načina i učinkovitosti primjene *mindfulnessa* u području edukacijske rehabilitacije, u sljedećim skupinama korisnika: 1) djeca s teškoćama u razvoju/osobe s invaliditetom, 2) roditelji, 3) stručnjaci uključeni u edukacijsko-rehabilitacijski proces.

Mindfulness, djeca s teškoćama u razvoju i osobe s invaliditetom

Kod djece s teškoćama u razvoju i osoba s invaliditetom primjena *mindfulnessa* može biti jednostavan i praktičan način unapređenja različitih sposobnosti, stanja i vještina, budući da alati kojima se služi (*vizualizacija, disanje, pokret, prihvaćanje, meditacija, svjesnost, refleksija i sl.*) predstavljaju unutarnje procese osobe te nisu potrebni dodatni materijali ili dodatna prilagodba okruženja u kojem se trening provodi. Osim toga, provođenje različitih *mindfulness* tehnika ne zahtijeva mnogo vremena, mogu se provoditi samostalno ili u kombinaciji s nekim drugim terapijskim ili edukacijsko-rehabilitacijskim pristupima uz prilagodbu različitim potrebama i sposobnostima korisnika (Kabat-Zinn, 2015, Magaldi i Park-Taylor, 2016).

Kao pristup koji je relativno nezahtjevan u smislu postizanja kompleksnih ishoda u području introspekcije ili uvida o vlastitim problemima, *mindfulness* se može prakticirati kod osoba s različitim vrstama teškoća i razinama ograničenja. Naime, u terapijskom kontekstu, ovaj pristup primarno teži podržavanju osobne dobrobiti, izgradnji boljeg odnosa na relaciji terapeuta – korisnik, osnaživanja terapijskog saveza i međusobne empatije, a ako se provodi u grupi, jača grupnu koheziju (Bruce, Shapiro, Consantino i Manber, 2010; Kalmar i sur, 2022). Nadalje, primjena različitih intervencija temeljenih na *mindfulnessu* kod djece

often face numerous challenges in the workplace and daily life that sometimes require additional interventions to mitigate negative reactions to stress, as well as to maintain their physical and mental health. Based on the above-mentioned findings, the present study aimed to review and analyse the results of previous research on this subject to examine the possibilities and effectiveness of using mindfulness in the field of education and rehabilitation in relation to the following user groups: 1) children with developmental disorders/people with disabilities, 2) parents, 3) professionals of various disciplines involved in the process of education and rehabilitation.

Mindfulness in children with developmental disorders and persons with disabilities

For children with developmental disorders and persons with disabilities, the use of mindfulness can be a simple and easy-to-implement method to improve various skills, states of being, and abilities, since the tools used here (visualisation, breathing, movement, acceptance, meditation, awareness, reflection, and so on) are internal processes undertaken by the individual and they do not require additional materials or adaptations to the environment in which the training is carried out. Moreover, the implementation of different mindfulness techniques does not require much time: they can be carried out independently or in combination with other therapeutic, educational, or rehabilitation approaches and tailored to the various needs and abilities of the users (Kabat-Zinn, 2015; Magaldi & Park-Taylor, 2016).

As an approach that is relatively uncomplicated in terms of achieving complex outcomes in the area of introspection or insight into one's problems, mindfulness can be practiced by individuals with various types of difficulties and levels of limitations. In a therapeutic context, this approach primarily aims to promote personal well-being, enhance the therapist-client relationship, strengthen the therapeutic alliance and mutual empathy, and, when conducted in a group setting, improve group cohesion (Bruce, Shapiro, Consantino & Manber, 2010; Kalmar et al., 2022). Furthermore, the use of various mindfulness-based interven-

s teškoćama u razvoju i osoba s invaliditetom često je usmjerena na poboljšanje kapaciteta samo-regulacije s namjerom prepoznavanja značajnih karakteristika neke situacije, reaktivnog emocionalnog stanja i mogućih načina samokontrole, u vremenskom tijeku koji odgovara svakoj pojedinoj osobi (Meiklejohn i sur., 2012; Kim i Kwon, 2017). U tom procesu primjena tehnika usmjerenih na jačanje sposobnosti da se promijeni fokus pažnje može pomoći osobi da se umiri i odabere prikladan način reakcije na određenu neugodnu emociju, misao ili događaj (Adkins, Singh, Winton, McKeegan i Singh, 2010).

Iz navedenih je razloga provedba programa *mindfulnessa* prikladna i kod osoba s intelektualnim i/ili višestrukim teškoćama, a dodatni argument njegove primjene u navedenoj populaciji leži u činjenici, kako navode Brown, Duff, Karatzias i Horsburg (2011), da u svojoj osnovi ne zahtijeva vještine iznošenja vlastitih misli i osjećaja, te kompleksne verbalne sposobnosti. Tako su na primjer, Singh i sur. (2013) u svom istraživanju dobili rezultate prema kojima je provedba *mindfulnessa* pomogla osobama s lakim intelektualnim teškoćama da kontroliraju fizičku i verbalnu agresivnost. Istraživanje o primjeni MBCT programa kod osoba s graničnim, lakim i umjerenim intelektualnim teškoćama proveli su Idusohan-Moizer, Sawicka, Dendle i Albany (2013), pri čemu se pokazalo da je program bio učinkovit u smanjenju simptoma anksioznosti i depresije, kao i u povećanju empatije prema sebi i drugim osobama.

Kim i Kwon (2017) proveli su program primjene *mindfulness* meditacija s troje djece s lakim intelektualnim teškoćama (KD: 10 – 12 godina). Program se provodio dvaput tjedno u trajanju od 45 minuta, a ukupno je provedeno 25 seansi. Protokol programa uključivao je vježbe svjesnosti, pažnje i verbalnog samopotvrđivanja, te vježbe *mindful* ponašanja u odnosu na vlastite misli, osjećaje, postupke i disanje koji se javljaju pri rješavanju aritmetičkih zadatka. Tijekom programa također su se upotrebljavali dodatni materijali kao što su fotografije, vizualne brošure vezane za sadržaj koje se obrađivao i različiti glazbeni instrumenti, kako bi se potaknula motivacija u ispitanika. Po završetku provedenog programa kod svih

tions with children with developmental disorders and persons with disabilities often focuses on improving the ability to self-regulate with the intention of recognising significant characteristics of a situation, reactive emotional states, and possible methods of self-control, within a timeframe that is appropriate for each person (Meiklejohn et al., 2012; Kim & Kwon, 2017). In this process, using techniques to strengthen the ability to shift attentional focus can help a person calm down and choose an appropriate way to respond to a particular unpleasant emotion, thought, or event (Adkins, Singh, Winton, McKeegan & Singh, 2010).

For these reasons, the use of mindfulness programmes is also suitable for individuals with intellectual and/or multiple disabilities. An additional argument in favour of its use in this population, as mentioned by Brown et al. (2011), is the fact that it does not fundamentally require complex verbal skills or the ability to articulate one's thoughts and feelings. For example, Singh et al. (2013) found in their study that the use of mindfulness helped individuals with mild intellectual disabilities to control physical and verbal aggression. Idusohan-Moizer et al. (2013) conducted a study on the use of the MBCT programme with participants who were diagnosed with borderline, mild, and moderate intellectual disabilities and were able to show that the programme was effective in reducing symptoms of anxiety and depression, as well as in increasing empathy towards one's self and others.

Kim and Kwon (2017) conducted a study to test the effectiveness of a mindfulness meditation programme on 3 children with mild intellectual disabilities (10-12 years old). The programme was conducted twice a week for a total of 25 sessions (each session was 45 minutes long). The programme protocol included mindfulness exercises, attention exercises, verbal self-affirmation, as well as exercises on mindful awareness of one's thoughts, feelings, actions, and breathing while solving math problems. Additional materials such as photos, visual brochures on the content covered, and various musical instruments were also used during the programme to boost participant motivation. At the end of the programme,

je ispitanika utvrđeno produženje perioda usmjerenosti na rješavanje zadataka, poboljšanje točnosti rješavanja, smanjenje distraktibilnosti i neorganiziranosti. Dodatno, majke ispitanika uočile su poboljšanja u području vještina svakodnevnog života, samopoštovanja, kontrole ponašanja, pažnje i sposobnosti umirivanja u stresnim situacijama. Razvijanje *mindful* stanja isto tako može biti jedan od ciljeva primjene *mindfulnessa* kod osoba s lakim intelektualnim teškoćama, što je potvrđeno u istraživanju Currie, McKenzie i Noone (2019) koji su u grupi ispitanika u dobi od 18 do 53 godine proveli prilagođeni MBSR program koji je uključivao *mindful* disanje, *mindful* hranjenje, *mindful* hodanje, sjedeću meditaciju, skeniranje tijela i yogu. Sudionici su tijekom završnog intervjua izvijestili o poboljšanju u području samopoštovanja, samopouzdanja, samokontrole, staloženosti, i većem suosjećanju prema sebi i drugima. Uz to su također naveli da su im usvojene sposobnosti obraćanja pažnje na disanje i sposobnosti kontrole disanja najkorisnije i najpristupačnije vještine koje im omogućavaju smirenost u različitim stresnim trenucima.

Pilot studija Van der Oorda, Bögelsa i Peijnenburga (2012) provedena je u svrhu ispitivanja učinkovitost *mindfulness* treninga kod djece s ADHD-om i njihovih roditelja, koji je trajao osam tjedana (osam seansi po 90 minuta). Provedeni program temeljio se na tehnikama iz MBCT i MBSR programa, a cilj je bilo učenje fokusiranja pažnje, poboljšanje svjesnosti i samokontrole. Motivacija djece za sudjelovanje u programu *mindfulnessa* bila je potaknuta pozitivnim potkrepljivanjem nakon svake uspješno provedene vježbe na seansi i kod kuće. Pozitivne promjene koje su roditelji kod sebe zamijetili odnosile su se na poboljšanje vještine potpune prisutnosti bez prosuđivanja u odnosu s vlastitom djecom i vještine suočavanja sa stresom i djetetovim ponašanjima, dok su kod djece uočili značajno smanjenje ADHD simptoma. Gabriely, Tarrasch, Velicki i Ovadia-Blechman (2020) proveli su istraživanje o utjecaju *mindfulness* meditacije u odnosu na primjenu *biofeedback* uređaja za vođeno disanje kod studenta u kojih su bile prisutne teškoće učenja i/ili ADHD. Rezultati istraživanja ukazali su na

all participants showed prolonged concentration on solving tasks, improved accuracy in solving tasks, as well as reduced distractibility and disorganisation. In addition, the mothers of the participants observed improvements in coping with everyday life, self-esteem, behavioural control, attention, and the ability to calm down in stressful situations. Developing a mindful state may also be one of the goals of using mindfulness in individuals with mild intellectual disabilities. This was confirmed in the study by Currie et al. (2019) who conducted an adapted MBSR programme where the participants were between the ages of 18 to 53 years. The programme included mindful breathing, mindful eating, mindful walking, sitting meditation, body scan, and yoga. In the final interview, participants reported improvements in self-esteem, self-confidence, self-control, calmness, and greater self-compassion towards themselves and others. They also mentioned that the adopted skills of paying attention to breathing and controlling breathing were the most useful and accessible skills for keeping calm in various stressful moments.

In a pilot study conducted by Van der Oord et al. (2012), the effectiveness of a mindfulness training in children with attention deficit hyperactivity disorder (ADHD) and their parents was investigated over a period of 8 weeks (8 sessions, 90 minutes each). The programme was based on techniques from the MBCT and MBSR programmes and aimed to train attentional focus, improve awareness, and strengthen self-control. The children's motivation to participate in the mindfulness programme was encouraged through positive reinforcement after each successfully completed exercise during the sessions and at home. Positive changes noted by parents included improvements in their ability to be non-judgmental in their relationship with their children and their ability to manage stress and children's behaviour, while significant reductions in ADHD symptoms were observed in the children. Gabriely et al. (2020) conducted a study on the effects of mindfulness meditation compared to the use of a biofeedback device for guided breathing in students with learning difficulties and/or ADHD.

značajno smanjenje hiperaktivnosti i nepažnje u skupini ispitanika obuhvaćenih *mindfulness* programom u usporedbi sa skupinom koja se koristila *biofeedback* uređajem za vođeno disanje. Također, pokazalo se da su oba pristupa utjecala na smanjenje fiziološke reaktivnosti na stres, odnosno brzinu disanja, brzinu otkucaja srca te galvan-sku reakciju kože.

Prema nekim autorima, teškoće u učenju i slabija akademska postignuća, naročito u osoba s anksioznošću, može biti posljedica problema u fokusiranju pažnje, nepovjerenja u vlastite kompetencije te zaokupljenosti negativnim mislima o sebi i različitim životnim situacijama (Swanson i Howell, 1996). Razmišljajući na sličan način, Beauchemin, Hutchins i Patterson (2008) proveli su istraživanje s pretpostavkom da će *mindfulness* meditacija utjecati na usredotočenost, doživljaj sebe i poboljšanje strategija učenja. U tu je svrhu, na početku svakog nastavnog sata tijekom pet tjedana, s 34 učenika srednjoškolske dobi provedena *mindfulness* meditacija u trajanju od 5 do 10 minuta. Za to su vrijeme učenici usmjeravali pažnju na disanje te na vlastite misli i emocije, bez prosuđivanja. Nakon završetka programa utvrđeno je značajno poboljšanje socijalnih vještina, akademskih postignuća te smanjenje anksioznosti. Isto tako, Esmmaeelbeygi i sur. (2020) ispitali su povezanost *mindfulnessa* i usvajanja socijalnih vještina kod troje učenika s teškoćama učenja u osnovnoj školi. *Mindfulness* program, u trajanju od 45 minuta, provodio se individualno tijekom osam seansi. Primjenjivale su se meditacije i vježbe usmjerene na osvještavanje disanja, zvukova, tjelesnih senzacija, misli i emocija. Kako bi vježbe bile razumljivije, primjenjivala se njihova prilagodba uz pomoć glazbe, igre, figura koje demonstriraju različita emocionalna stanja te elastičnih gumica koje su nosili kao podsjetnik na to da budu ljubazni prema drugima. Rezultati dobiveni na temelju procjene roditelja ukazali su na pozitivne promjene u smjeru poboljšanja socijalnih vještina u ispitanika, ne samo neposredno nakon provedbe programa, već i nakon ponovljene procjene tri tjedna nakon posljednje seanse.

Primjena *mindfulness* programa pokazala se uspješnom i u populaciji djece s autizmom (Har-

The research results indicated a significant reduction in hyperactivity and inattention in the group of participants who were part of the *mindfulness* programme compared to the group who used the guided breathing technique through the *biofeedback* device. In addition, both approaches were found to reduce physiological reactivity to stress, including breathing rate, heart rate, and skin conductance.

According to some authors, learning difficulties and lower academic achievements, especially in individuals with anxiety, may be due to problems in focusing attention, lack of confidence in their competencies, and preoccupation with negative thoughts about themselves and various life situations (Swanson & Howell, 1996). Therefore, Beauchemin et al. (2008) conducted research in which they hypothesised that *mindfulness* meditation would influence concentration, self-experience, and improvement in learning strategies. For this purpose, *mindfulness* meditation sessions lasting 5 to 10 minutes were conducted with 34 high school students at the beginning of each lesson over a period of five weeks. During this time, the students focused their attention on their breathing and their own thoughts and feelings without judging them. At the end of the programme, significant improvements were observed in social skills and academic achievements, in addition to a reduction in anxiety. Additionally, Esmmaeelbeygi et al. (2020) examined the relationship between *mindfulness* and the acquisition of social skills in three primary school students with learning difficulties. A 45-minute *mindfulness* programme was conducted individually over 8 sessions. Meditations and exercises that focused on awareness of breathing, sounds, body sensations, thoughts, and feelings were used. To make the exercises easier to understand, they were customised with music, games, figures representing different emotional states, and elastic bands worn as reminders to be kind to others. The results, based on the parents' assessment, indicate positive changes in terms of improving the participants' social skills, not only immediately after the programme, but also after a reassessment conducted three weeks after the last session.

tley, Dorstyn i Due, 2019). Singh i sur. (2019) u svojem su istraživanju utvrdili da takve intervencije u djece i mladih s visokofunkcionirajućim autizmom mogu pomoći u poboljšanju socijalne komunikacije, kao i u smanjenju agresivnog i neprihvatljivog ponašanja. Također, i neka druga istraživanja provedena u populaciji odraslih osoba s autizmom ukazala su na pozitivne ishode u području smanjenja psihološkog distresa (Sizoo i Kuiper, 2017; Spek, van Ham i Nyklicek, 2013) te poboljšanju emocionalne regulacije i kontroli impulsa (Conner i White, 2018; Kiep, Spek i Hoeben, 2015). Autori Hwang, Kearney, Klieve, Lang i Roberts (2015) proveli su pilot studiju koja je uključivala primjenu *mindfulness* intervencije namijenjenu djeci s autizmom i njihovim majkama koje su, nakon što su usvojile pojedine tehnike, podučavale vlastitu djecu i zajednički prakticirali *mindfulness*. Djeca obuhvaćena ovim istraživanjem imala su različite probleme u ponašanju, poput sklonosti samoozljeđivanju i verbalne i fizičke agresije te su za njih koncipirane aktivnosti koje su uključivale disanje, pokrete tijela, zvukove, svjesnost uma, kao i vježbe ljubaznosti i dobrote koje su provodile u obiteljskom okruženju. Nakon završetka treninga u pojedinim je majki došlo do smanjenja roditeljskog stresa i poboljšanja kvalitete obiteljskog života, a kod djece je utvrđeno značajno smanjenje anksioznosti i problema u ponašanju.

Tijekom edukacije i rehabilitacije osoba s cerebralnom paralizom često se pažnja usmjerava na poticanje motoričkih vještina i akademskih postignuća, pri čemu se ponekad zanemaruje psihosocijalni aspekt njihova života (Bhatt, Canella i Gentile, 2022). Imajući to u vidu, Høye i sur. (2020) istraživali su učinak grupnog programa MBSR za odrasle osobe s cerebralnom paralizom (provedenog putem videokonferencije jedanput tjedno) i s posebnim osvrtom na prorađivanje i samoprocjenu intenziteta boli, katastrofiziranja boli, stresa, emocionalnog stanja, emocionalnog distresa, umora, i kvalitete života. Nakon provedbe programa dobiveni rezultati pokazali su da je doživljaj boli i nadalje oscilirao iz tjedna u tjedan, međutim, statistički je značajno smanjeno katastrofiziranje boli i pojavnost negativnih emocija.

The use of mindfulness programmes has also been shown to be successful in the population of children with autism (Hartley, Dorsten & Due, 2019). Singh et al. (2019) found in their study that such interventions can help improve social communication and reduce aggressive and unacceptable behaviour in children and adolescents with high-functioning autism. In addition, other studies conducted in the adult autism population have indicated positive outcomes in reducing psychological distress (Sizoo & Kuiper, 2017; Spek, van Ham & Nyklicek, 2013) and improving emotion regulation and impulse control (Conner & White, 2018; Kiep, Spek, & Hoeben, 2015). Hwang et al. (2015) carried out a pilot study in which they implemented a mindfulness intervention for children with autism and their mothers who, after adopting certain techniques, taught their own children to practice mindfulness together. The children who participated in the above-mentioned study had various behavioural problems, such as self-harm tendencies and verbal and physical aggression, for which activities were developed that included breathing, body movements, sounds, awareness, kindness, and benevolence exercises in the family environment. After completing the training, some mothers noted a reduction in parental stress and an improvement in the quality of family life, along with a significant reduction in anxiety and behavioural problems in the children.

In the education and rehabilitation of individuals with cerebral palsy, the focus is often on promoting motor skills and academic achievements, sometimes neglecting the psychosocial aspect of their lives (Bhatt, Canella & Gentile, 2022). With this in mind, Høye et al. (2020) examined the effect of a group-based MBSR programme for adults with cerebral palsy (delivered once a week via videoconference) that focuses on pain experience, self-assessment of pain intensity, pain catastrophising, stress, emotional state, emotional distress, fatigue, and quality of life. After completing the programme, the results showed that the pain experience continued to fluctuate from week to week, but pain catastrophising and the prevalence of negative emotions decreased significantly. During the focus group, conducted four

Tijekom fokus grupe, provedene četiri mjeseca nakon završetka programa, sudionici su izjavili da se povećala njihova svjesnost o tjelesnim senzacijama i o tijelu u cjelini, te da bolje prihvaćaju svoje stanje invaliditeta i da su svjesniji vlastitih kapaciteta za nošenje s tim stanjem. Sudionici su također potvrdili da su zamijetili poboljšanje emocionalne regulacije u smislu bolje kontrole negativnih misli, ruminacije i nemira uzrokovanog stresnim situacijama. Uočili su i povećanu spremnost da razgovaraju o svojim potrebama, ograničenjima i sposobnostima u interakciji s prijateljima, zdravstvenim osobljem i kolegama na poslu. Provođenje *mindfulness* programa putem videokonferencije pokazalo se kao vrijedna mogućnost, posebice za osobe s motoričkim poremećajima i teškoćama u organizaciji transporta, budući da može smanjiti utrošak energije i povećati pristupačnost programa (Spijkerman, Pots i Bohlmeijer, 2016).

Primjena različitih programa i tehnika *mindfulnessa* pokazala se primjerena i kod osoba sa senzoričkim oštećenjima. U tom se kontekstu može navesti istraživanje Lyngrotha i Gammelsætera (2023) u okviru kojeg je cilj bio dobivanje uvida u to što osobe s oštećenjima vida doživljavaju kao stres u svakodnevnom životu i koja su njihova iskustva sudjelovanja u *mindfulness* treningu u trajanju od osam tjedana. Podaci dobiveni primjenom polustrukturiranih intervjua otkrili su tri glavna područja stresa: 1) nedostatak pristupa informacijama, 2) društvena očekivanja i 3) kretanje kroz okolinu. Sudjelovanje u *mindfulness* treningu rezultiralo je usvajanjem sljedećih tehnika i strategija suočavanja sa stresnim situacijama: 1) primjena tehnike disanja: “*Dah kao sidro*”, 2) svjesnost i razmišljanje o mislima i osjećajima, 3) razmišljanje na način: *većina stvari je izvediva*, 4) rješavanje situacije na nov način i 5) razmišljanje na način: *žurba stvara otpad*. Sudionici su također naveli da im primjena *mindfulnessa* koristi u svim trima stresnim područjima. Provedba ove vrste intervencije, u populaciji osoba s oštećenjima vida, također može biti učinkovita u području kognitivne fleksibilnosti i otpornosti (Najjafi i Dasty, 2021), te u području duhovnog blagostanja. Također, ove usvojene tehnike i strategije suočava-

months after the completion of the programme, participants reported an increased awareness of bodily sensations and their body as a whole, as well as a better acceptance of their disability and an increased awareness of their own coping capacities. Participants also confirmed improved emotional regulation in terms of better control over negative thoughts, rumination, and agitation due to stressful situations. They also noted a greater willingness to talk about their needs, limitations, and abilities when interacting with friends, healthcare professionals, and work colleagues. Conducting mindfulness programmes via videoconferencing has been shown to be a valuable option, especially for individuals with motor disorders and transportation difficulties, since it can reduce energy expenditure and improve the accessibility of the programme (Spijkerman, Pots & Bohlmeijer, 2016).

The use of various mindfulness programmes and techniques has also been found to be appropriate for individuals with sensory impairments. In this context, Lyngroth and Gammelsæter (2023) aimed to find out more about the factors that individuals with visual impairments associate with stress in their everyday lives and what their experiences were after participating in an 8-week mindfulness training. The data collected through semi-structured interviews revealed three main areas of stress: 1) lack of access to information, 2) social expectations, and 3) navigating one’s own body through the surroundings. Participation in mindfulness training led to the use of techniques and coping strategies for stressful situations, including: 1) breathing anchor’, 2) awareness of and reflection on thoughts and feelings, 3) thinking in terms of “most things are doable’,” 4) approaching situations in a new way, and 5) thinking in terms of “haste makes waste”. Participants also stated that the mindfulness practices were beneficial in all three areas of stress. Implementing this type of intervention with individuals with visual impairments can also improve cognitive flexibility and resilience (Najjafi & Dasty, 2021), as well as mental well-being. In addition, the techniques and coping strategies used contributed to an improved sense of intra-, inter-, and trans-personal

nja doprinijele su osjećaju bolje intrapersonalne, interpersonalne i transpersonalne povezanosti potaknute poboljšanjem emocionalnog, društvenog i fizičkog zdravlja (Marquès-Brocksopp, 2014).

Značajan učinak na osjećaj sreće i smanjene socijalne anksioznosti u djece s oštećenjima sluha utvrđen je u istraživanju koje su proveli Heydari Darani i Manshaei (2022) na uzorku od 15 ispitanika u dobi od 8 do 11 godina, koji su sudjelovali u 10 *mindfulness* seansi primjenom tehnika kao što su svjesne misli, emocije i ponašanje te prisutnost u trenutku. Pojedini autori svoje su intervencije pokušali usmjeriti na ublažavanje intenziteta i posljedica tinitusa te su s tom namjerom McKenna, Marks, Hallsworth i Schaette (2017) usporedili djelovanje programa MBCT (39 ispitanika) u usporedbi s intenzivnim treningom opuštanja (36 ispitanika). U objema skupinama programi su provedeni jedanput tjedno u trajanju od 120 minuta, tijekom osam tjedana. Obje su skupine pokazale značajno smanjenje subjektivnog doživljaja jačine i glasnoće tinitusa, psihološkog distresa, anksioznosti, depresije i invaliditeta. Autori su također zaključili da je MBCT bila učinkovita bez obzira na početnu težinu tinitusa, trajanje ili razinu gubitka sluha.

Na temelju navedenog može se zaključiti da se primjena *mindfulness* programa kod djece s teškoćama u razvoju i osoba s invaliditetom pokazala učinkovitom u području regulacije emocija, podržavanja fokusa pažnje, smanjenja stresa i razvoja socijalnih vještina. Prednost *mindfulness* tehnika u tome je što su prilagodljive, ne zahtijevaju kompleksne materijale i mogu se kombinirati s drugim terapijskim pristupima. Također, rezultati istraživanja ukazali su na smanjenje anksioznosti, depresije, agresivnog ponašanja i psihološkog distresa, kao i na poboljšanje samopoštovanja, empatije, akademskih postignuća i kvalitete života kod djece i odraslih s različitim vrstama teškoća i razinama ograničenja u psihofizičkom funkcioniranju.

Mindfulness i roditeljstvo

Roditeljske kompetencije i vještine stječu se, formiraju i usavršavaju tijekom različitih faza razvoja djeteta. To je proces koji zahtjeva stal-

connection and promoted emotional, social, and physical health (Marquès-Brocksopp, 2014).

A study conducted by Heydari Darani and Manshaei (2022), involving 15 participants (aged 8 to 11 years) who participated in 10 mindfulness sessions, used techniques such as mindful thoughts, emotions, and behaviours, as well as mindfulness in the present moment, and showed a significant effect on happiness and reduction of social anxiety in children with hearing impairments. Some authors attempted to direct their interventions towards reducing the intensity and consequences of tinnitus: for example, McKenna et al. (2017) compared the effects of an MBCT programme (39 participants) with an intensive relaxation training (36 participants). Both groups participated in weekly sessions lasting 120 minutes for 8 weeks. Both groups showed a significant reduction in the subjective experience of the strength and loudness of tinnitus, anxiety, depression, and disability. The authors also concluded that MBCT was effective, regardless of the initial severity of the tinnitus, duration, or degree of hearing loss.

Therefore, it can be concluded that the use of mindfulness programmes for children with developmental disorders and people with disabilities has been shown to be effective in areas such as emotional regulation, supporting attention focus, stress reduction, and development of social skills. The advantage of mindfulness techniques lies in their adaptability, since they do not require complex materials and can be combined with other therapeutic approaches. In addition, research findings have indicated a reduction in anxiety, depression, aggressive behaviours, and psychological distress, as well as improvements in self-esteem, empathy, academic performance, and quality of life in children and adults with various types of difficulties and levels of limitations in psychophysical functioning.

Mindfulness and parenting

Parental competencies and skills are acquired, formed, and perfected during the various stages of a child's development. It is a process that requires constant adaptation and should include

nu prilagodbu, a trebao bi uključivati sposobnost rješavanja problema, asertivnost, upravljanje, komunikacijske vještine, toleranciju i dr. (Sremić i Rijavec, 2010). Neke moguće posljedice stresa kod roditelja djece s teškoćama razvoju mogu se manifestirati u percepciji smanjene učinkovitosti, pretjeranim i neprimjerenim reakcijama na ponašanje djeteta, neprikladnim strategijama suočavanja i smanjenoj sposobnosti pružanja adekvatne podrške djetetu (Osborne i Read, 2013; Hsiao, 2017.). Tako roditeljski stres može ne samo negativno utjecati na psihičko i tjelesno zdravlje djeteta, već može imati negativne implikacije na mentalno zdravlje i kvalitetu odnosa kod roditelja (Singh i sur., 2019.). Primjena *mindfulnessa* u roditelja potiče samoregulaciju i smirenost, što može predstavljati bazu za promišljanje o mogućim postupcima u cilju korigiranja maladaptivnih ponašanja (Dumas, 2005). Razmatrajući *mindful* roditeljstvo, Duncan, Coatsworth i Greenberg, (2009) opisali su njegove karakteristike koje načelno uključuju: a) slušanje i promatranje s punom pažnjom, b) prihvatanje sebe i svog djeteta bez prosuđivanja, c) svjesnost o vlastitim i djetetovim emocijama, d) samoregulacija u odnosu s djetetom, e) suosjećanje usmjereno prema sebi i djetetu.

Prema rezultatima meta-analize autora Chua i Shorey (2021), prakticiranje *mindfulness* tehnika i uspješnost postizanja *mindful* stanja, odnosno *mindful* roditeljstva može biti jedan od načina smanjenja stresa, anksioznosti i depresije kod roditelja djece s teškoćama u razvoju. U cilju razumijevanja kako primjena *mindfulnessa* djeluje na roditeljske stresne reakcije Singh i sur. (2019), proveli su istraživanje o kvaliteti utjecaja MBPBS treninga na razinu stresa kod majki adolescenata s autizmom i majki adolescenata s intelektualnim teškoćama u odnosu na agresivnost djece, ometajuća ponašanja i odgovaranja na zahtjeve roditelja. Program se provodio tijekom tri dana i obuhvaćao je upoznavanje s osnovnim odrednicama *mindfulnessa*, različite vježbe meditacije, određivanje plana intervencije, ciljeva i podrške djetetu, te razmatranje plana svakodnevne primjene pozitivnih bihevioralnih intervencija temeljenih na *mindfulnessu* u odnosu s djecom i ostalim članovima obitelji. Po završetku treninga majke su tije-

problem-solving skills, assertiveness, management, communication skills, tolerance and more (Sremić & Rijavec, 2010). In parents of children with developmental disorders, some consequences of stress may manifest in perceptions of decreased effectiveness, exaggerated and inappropriate responses to the child's behaviour, inadequate coping strategies, and decreased ability to provide appropriate support to the child (Osborne & Read, 2013; Hsiao, 2017). In this way, parental stress can have a negative impact on the child's mental and physical health, as well as result in negative consequences for mental health and the quality of relationships between parents (Singh et al., 2019). The use of mindfulness by parents promotes self-regulation and calmness, which can serve as a basis for considering possible interventions to correct maladaptive behaviours (Dumas, 2005). In relation to mindful parenting, Duncan et al. (2009) described its characteristics as follows: a) listening and observing with complete attention, b) acceptance of self and child without judgment, c) awareness of one's own emotions and those of the child, d) self-regulation in relation to the child, and e) compassion for self and child.

According to the results of a meta-analysis by Chua and Shorey (2021), practising mindfulness techniques and successfully achieving a mindful state or mindful parenting can be a way to reduce stress, anxiety, and depression in parents of children with developmental disorders. To understand how the use of mindfulness affects parental stress responses, Singh et al. (2019) examined the quality and the impact of MBPBS training on the stress levels of mothers of adolescents with autism and mothers of adolescents with intellectual disabilities: the authors studied children's aggression, disruptive behaviour, and responsiveness to parental demands. The programme took place over three days and included learning about the basic determinants of mindfulness, various meditation exercises, establishing intervention plans, goals, and support for the child, as well as developing a plan for daily use of positive behavioural interventions based on mindfulness in interactions with children and other family members. After completing the training, the mothers continued practising MBPBS techniques

kom 30 tjedana implementirale MBPBS praksu u okviru svakodnevnog života. Evaluacija dobivenih rezultata ukazala je na učinkovitost provedenog programa kod majki adolescenata s autizmom i majki adolescenata s intelektualnim teškoćama tako da su bile uspješnije u sprječavanju neprikladnih reakcija uzrokovanih ponašanjem djeteta i u preusmjeravanju pažnju s negativnih emocija na kvalitetniju interakciju s djetetom u sadašnjem trenutku, dok su kod djece uočile smanjenje agresivnog i ometajućeg ponašanja uz češće primjerno odgovaranje na zahtjeve majki.

Bazzano i sur. (2013) proveli su program MBSR u trajanju od osam tjedana s namjerom ispitivanja kako djeluje na kvalitetu roditeljstva. Uzorak ispitanika obuhvaćao je 66 roditelja i skrbnika djece u kojih su bile prisutne različite teškoće u razvoju (intelektualne teškoće, autizam, sindrom Down, cerebralna paraliza, epilepsija). Dobiveni podaci pokazali su da je kod sudionika istraživanja došlo do značajnog smanjenja općeg i roditeljskog stresa, te značajnog povećanja samosuosjećanja i osobnog blagostanja, kako neposredno po završetku programa, tako i dva mjeseca poslije. U opisivanju doživljenih promjena naveli su da se uspješnije suočavaju sa stresom i da su više usredotočeni na sadašnji trenutak, što je dovelo do kvalitetnijeg odnosa s djecom. Slične rezultate dobili su i Lo, Chan, Szeto, Chan i Choi (2017) na uzorku 180 roditelja djece predškolske dobi s različitim vrstama teškoća u razvoju (ADHD, autizam, kašnjenje u razvoju i dr.) u kojih su provedeni programi MBSR i MBCT te psihoedukacija o upravljanju stresom. Nakon provedbe navedenih intervencija utvrđeno je značajno smanjenje razine roditeljskog stresa uzrokovanih disfunkcionalnim interakcijama s djetetom te smanjenje simptoma depresije. Nadalje, značajan izvor frustracije u pojedinim roditelja predstavlja nepoželjno ponašanje djece s ADHD-om, zbog čega ponekad pretjerano reaguju ili primjenjuju različite modele kažnjavanja, pri čemu djeca izražavaju još više otpora i neprihvatljivog ponašanja (Heath, Curtis, Fan i McPherson, 2015). S namjerom ublažavanja takvih neučinkovitih interakcija, Behbahani, Zargar, Assarian i Akbari (2018) proveli su *mindfulness* trening sa 60 majki djece u

in their daily lives for 30 weeks. The evaluation of the results indicated the effectiveness of the programme in mothers of adolescents with autism and mothers of adolescents with intellectual disabilities, since they were more successful in avoiding inappropriate responses to the child's behaviour and shifting the attention from negative emotions to higher quality interactions with the child in the present moment. At the same time, a reduction in aggressive and disruptive behaviour was observed in the children, along with more frequent appropriate responses to maternal demands.

Bazzano et al. (2013) conducted an 8-week MBSR programme to examine the effects of mindfulness on the quality of parenting. The sample included 66 parents and caregivers of children with various developmental disorders (intellectual disability, autism, Down syndrome, cerebral palsy, and epilepsy). The data showed a significant decrease in general and parental stress, as well as a significant increase in self-compassion and personal well-being, both immediately after the programme and two months after the completion of the programme. When describing the changes that participants experienced, they stated that they were better able to cope with stress and that they were more focused on the present moment, which led to a better quality of relationship with their children. Similar results were obtained by Lo et al. (2017) in a sample of 180 parents of preschool-aged children with various types of developmental disorders (ADHD, autism, developmental delays, and so on): here MBSR and MBCT programmes were used together with psychoeducation on stress management. Following the implementation of these interventions, the authors observed a significant reduction in parental stress levels caused by dysfunctional interactions with the child and a reduction in depressive symptoms. Furthermore, the inappropriate behaviour of children with ADHD is a major source of frustration for some parents, causing them to sometimes overreact or use various punishment models, resulting in the children expressing even more resistance and unacceptable behaviour (Heath et al., 2015). With the intention of alleviating such ineffective interactions, Behbahani et al. (2018) con-

dobi od 7 do 12 godina, koji je obuhvaćao različite tehnike, kao što su svjesno jedenje, skeniranje tijela, *trominutni prostor za disanje*, sjedeću i hodajuću meditaciju te meditacije zahvalnosti, ljubavi i ljubaznosti. Pozitivno iskustvo majki bilo je opisano kroz njihov doživljaj smanjenog osjećaja stresa i manji broj negativnih interakcija s djecom. Također su navele smanjenje impulzivnosti i hiperaktivnosti kod vlastite djece uz poboljšanje pažnje.

Burke, Chan i Neece (2017) proveli su kvalitativno istraživanje sa svrhom ispitivanja dobrobiti primjene *mindfulnessa* u školskom okruženju. Roditelji su sudjelovali u osmotjednom programu MBSR u trajanju od dva sata tjedno te su dobili CD s uputama za primjenu *mindfulnessa* kod kuće. Kao najznačajniju vrijednost sudjelovanja u programu roditelji su naveli mogućnost usvajanja strategija suočavanja sa stresom koji se redovito javljao pri sudjelovanju u koncipiraju individualiziranog edukacijskog programa (IEP) u suradnji s članovima stručnog tima škole. Naime, pojedini sudionici izjavili su da su svjesno prisutni i koncentrirani te da su naučili primjenjivati *mindfulness* disanje tijekom IEP susreta. Posebno su istaknuli vrijednost spoznaje da se mogu udaljiti od problema tako da se fokusiraju na cjelokupnu sliku umjesto na negativne pojedinosti. Nadalje, navedeno je da se poboljšalo njihovo osobno blagostanje, uključujući više strpljenja, smanjenje stresa i pretjerane emotivnosti, jasnije razmišljanje te više pozitivnih emocija. Zahvaljujući promjenama u ponašaju roditelja, djelatnici škole bili su skloniji uvažiti roditeljske sugestije i potrebe njihove djece.

Pojedina su istraživanja također bila usmjerena na mogućnost poboljšanja kvalitete života roditelja djece s teškoćama u razvoju. Barog, Younesi, Sedaghati i Sedaghati (2015) navode rezultate svojeg istraživanja prema kojima je program MBCT utjecao na bolju kvalitetu života majki djece s cerebralnom paralizom u domenama fizičkog i psihološkog zdravlja, socijalnih odnosa i okoline. Kod roditelja djece s autizmom primjena određenih *mindfulness* tehnika kao što su *trominutni prostor za disanje* i skeniranje tijela uz provođenje *mindful* igranja, hodanja, jedenja i promatranju

ducted *mindfulness* training with 60 mothers of children aged 7-12 years, which included various techniques such as mindful eating, body scanning, three-minute breathing space, sitting and walking meditation, as well as gratitude, loving-kindness, and compassion meditations. The mothers reported a positive experience characterised by reduced feelings of stress and fewer negative interactions with their children. They also noted a reduction in impulsivity and hyperactivity in their own children, as well as improved attention.

Burke et al. (2017) conducted a qualitative study to investigate the benefits of *mindfulness* practice in a school setting. Parents participated in an 8-week MBSR programme consisting of two-hour sessions conducted weekly and they also received a CD with *mindfulness* application instructions for use at home. The most significant value of participating in the programme, according to the parents, was the ability to acquire coping strategies for stress that occurred regularly when they were involved in developing an individualised education programme (IEP) in collaboration with school team members. Some participants stated that they were consciously present and focused and that they learned to use *mindfulness* breathing during IEP meetings. Furthermore, they emphasised the value of realising that they could step back from problems by focusing on the bigger picture rather than negative details. In addition, they reported improvements in their personal well-being, including greater patience, less stress and over-emotionality, clearer thinking, and more positive feelings. Because of the change in parents' behaviour, school staff were more inclined to consider parents' suggestions and their children's needs.

Some studies have also focused on the possibility of improving the quality of life of parents of children with developmental disorders. For example, Barog et al. (2015) stated that the results of their research on the MBCT programme showed an improvement in the quality of life of mothers of children with cerebral palsy in the domains of physical and mental health, social relationships, and environment. For parents of children with autism, the use of certain *mindfulness* techniques, such as a three-minute breathing space and body

djeteta i dr., značajno je utjecalo na poboljšanje u području psihološkog zdravlja, socijalnih odnosa i ukupne kvalitete života. Prema Rayan i Ahmad (2016) primjena *mindfulness* intervencije može utjecati na poboljšanje kvalitete života, budući da prihvaćanje trenutačne situacije, bez emocionalne reaktivnosti, može potaknuti pozitivu procjenu situacije i stav prihvaćanja, što se odražava na bolju procjenu vlastite egzistencije. Kao sljedeći razlog poboljšanja kvalitete života uslijed prakticanja *mindfulnessa* može biti njegova usmjerenost na podržavanje samosuosjećanja koje pretpostavlja osjećaj nježnosti i brige o sebi uz stav osobnog neosuđivanja zbog vlastitih pogrešaka ili neuspjeha. Pritom se ne odbacuje odgovornost i ne ignorira vlastita briga i bol, već se osvještavaju kao trenutačno iskustvo uz istovremeno priželjkivanje dobrobiti za samoga sebe i osoba oko nas (Ewert, Vater i Schröder-Abé, 2021; Gačal, Mihić, 2023).

Rezultati navedenih istraživanja potvrđuju učinkovitost *mindfulness* tehnika u smanjenju stresa i poboljšanju kvalitete života roditelja djece s teškoćama u razvoju. Prema autorima provedenih istraživanja takvi pozitivni ishodi rezultat su poboljšanja emocionalne otpornosti, samosuosjećanja i kvalitete interakcija na relaciji roditelj-dijete, uz istovremeno smanjenje nepoželjnih ponašanja kod djece. Ovi nalazi naglašavaju vrijednost *mindfulnessa* kao korisnog alata za suočavanje sa svakodnevnim izazovima roditeljstva.

***Mindfulness* i stručnjaci uključeni u edukacijsko-rehabilitacijski proces**

Stručnjaci različitih disciplina, uključeni u proces edukacije i rehabilitacije djece s teškoćama u razvoju i osoba s invaliditetom, zbog specifičnih zahtjeva i socioemocionalnih izazova, često su izloženi riziku od profesionalnog stresa i sagorijevanja na poslu (Dell’Oro, Marca i Canu, 2020; Tan, Sinnasamy i Zakaria, 2023). Uslijed toga se mogu javiti različite posljedice na planu tjelesnog, emocionalnog i mentalnog funkcioniranja u vidu kroničnog umora, tenzijske glavobolje, probavnih, kardiovaskularnih i/ili respiratornih psihosomatskih poremećaja, poremećaja spavanja i hranjenja, smanjenje pažnje i koncentracije, depresivnosti, depersonalizacije, osjećaja bespo-

scan, along with mindful play, walking, eating, and observing the child, and so on, had a significant impact on improvement in the domains of mental health, social relationships, and overall quality of life. According to Rayan and Ahmad (2016), the use of mindfulness interventions can improve quality of life, since accepting the current situation without emotional overactivity can encourage a positive assessment of the situation and an attitude of acceptance, which is reflected in a better assessment of one’s own existence. Another reason why mindfulness practices may improve quality of life is that it focuses on fostering self-compassion, which requires a sense of tenderness and self-care with an attitude of personal non-judgment of one’s own mistakes or failures. It does not translate to rejecting responsibilities and ignoring one’s own concerns and pains, but rather seeing them as current experiences, while simultaneously striving towards the well-being of ourselves and those around us (Ewert, Vater & Schröder-Abé, 2021; Gačal & Mihić, 2023).

The results of the above-mentioned studies confirm the effectiveness of mindfulness techniques in reducing stress and improving the quality of life of parents of children with developmental disorders. According to the authors of these studies, the positive outcomes occur as a result of improved emotional resilience, self-compassion, and quality of interactions in the parent-child relationship, as well as a simultaneous reduction in inappropriate behaviours in the children. These findings emphasise the value of mindfulness as a valuable tool for coping with the daily challenges of parenting.

Mindfulness among professionals involved in the education and rehabilitation

Professionals from various disciplines involved in the education and rehabilitation of children with developmental disorders and persons with disabilities are often at risk of professional stress and burnout due to the specific demands of the job and socio-emotional challenges (Dell’Oro, Marca & Canu, 2020; Tan, Sinnasam & Zakaria, 2023). As a result, various consequences related to physical, emotional, and mental functioning

moćnosti, beznadnosti i besmislenosti, a može se javiti i negativan stav prema korisnicima, njihovim roditeljima/skrbnicima i suradnicima na poslu te dehumanizacija (Ajduković, 1996). Također može biti prisutan doživljaj smanjene učinkovitosti i manjak produktivnosti na poslu (Maslach, Schaufeli i Leiter, 2001). Ova se stanja mogu nadalje negativno preslikavati na privatni život osobe, što dovodi do uzročno-posljedičnog „kaosa“ koji dodatno potiče osjećaj nezadovoljstva i psihofizičke iscrpljenosti. Naravno da u tom slučaju može biti narušena kvaliteta usluga koja se pruža korisnicima, odnosno, postoji veća vjerojatnost pojave nezainteresiranosti, smanjene tolerancije, ravnodušnosti i nestrpljivosti (Sun, Wang, Wang, Du i Zhang, 2019).

S obzirom na statističke pokazatelje koji ukazuju na porast broja profesija i postotak djelatnika u kojih se javljaju određeni simptomi sagorijevanja na poslu, u suvremenim se pristupima sve više pažnje posvećuje usvajanju tehnika i strategija suočavanja sa stresom, kako na osobnoj razini tako i na razini radne sredine. Takva su promišljanja neophodna budući da su rezultati pojedinih istraživanja pokazali da djelatnici pomagačkih profesija često nemaju prikladne obrasce ponašanja i načine reagiranja u stresnim situacijama koji bi upućivali na usvojeni korpus tehnika i strategija suočavanja (Škrinjar, 1996, Lucero, 2021, Jilou, Duarte, Gonçalves, Vieira i Simões, 2021). Iz tog im je razloga potrebna dodatna (psiho)edukacija, psihološka podrška, aktivnosti osnaživanje timske suradnje te različite intervencije u okviru kojih bi usvojili primjerene mehanizme upravljanja nepovoljnim životnim okolnostima (Greenberg i Valletutti, 1980; Cvitković i Majdak, 2022; Baird i Mollen, 2023).

Kao mogući način intervencije u ovom području može se navesti provedba različitih *mindfulness* programa usmjerenih na usvajanje tehnika koje mogu biti korisne u podržavanju fokusirane pažnje, emocionalne regulacije te kognitivne fleksibilnosti. Nadalje, ovakav trening može omogućiti stručnjacima da postignu svjesnu prisutnost tijekom komunikacije s korisnicima i da se s većom smirenošću suoče s emocionalno teškim situacijama. Prema Benn i sur. (2012) *mindful* stanje

may occur, including chronic fatigue, tension headaches, psychosomatic disorders (of the digestive, cardiovascular, and/or respiratory systems), sleep and eating disorders, decreased attention and concentration, depression, depersonalisation, feelings of helplessness, hopelessness and meaninglessness, as well as dehumanisation and negative attitudes towards clients, their parents/guardians, and colleagues (Ajduković, 1996). In addition, there may be a perception of reduced effectiveness and lack of productivity (Maslach, Schaufeli & Leiter, 2001). These conditions may also have a negative impact on the individual's personal life, leading to a causal-consequential "chaos" that further promotes feelings of dissatisfaction and psychophysical exhaustion. Naturally, in such cases, the quality of services provided to clients may be compromised, since there could be a greater likelihood of disinterest, lower tolerance, indifference, and impatience (Sun, Wang, Wang, Du & Zhang, 2019).

Bearing in mind the statistical data showing an increase in the number of professions and the percentage of employees suffering from specific burnout symptoms at the workplace, contemporary approaches increasingly focus on stress management, both on a personal level and in the work environment. Such considerations are necessary, since the results of various studies have shown that employees in helping professions often lack appropriate behavioural patterns and coping strategies in stressful situations (Škrinjar, 1996; Lucero, 2021; Jilou, Duarte, Gonçalves, Vieira, & Simões, 2021). Therefore, they need additional (psycho)education, psychological support, strengthening team cooperation, and various interventions to acquire appropriate mechanisms to cope with adverse life circumstances (Greenberg & Valletutti, 1980; Cvitković, Majdak, 2022; Baird & Mollen, 2023).

As a possible intervention in this area, the implementation of various mindfulness programmes aimed at adopting techniques that can be useful in supporting focused attention, emotional regulation and cognitive flexibility can be mentioned. Furthermore, such training can enable professionals to achieve a mindful presence when com-

omogućuje razumijevanje reakcija svojih korisnika bez prosuđivanja i empatično odgovaranje na njihove potrebe i zahtjeve. Istovremeno, prakticiranje *mindfulness* tehnika predstavlja i značajna obilježja brige o sebi i osnaživanja fizičke, emocionalne duhovne otpornosti (Grant i Kinmann, 2014; Crowder i Sears, 2017).

U posljednje je vrijeme proveden veći broj istraživanja s namjerom dobivanja uvida na koja specifična područja te kako djeluje prakticiranje *mindfulnessa* u području pomagačkih profesija, pa tako i u području edukacije i rehabilitacije djece s teškoćama u razvoju i osoba s invaliditetom. U tom su kontekstu, Ben i sur. (2012) proveli randomiziranu kontroliranu studiju prema kojoj je petotjedni program *mindfulnessa* kod nastavnika i roditelja djece s teškoćama u razvoju pokazao značajno smanjenje stresa i tjeskobe, te povećanu svjesnost, samosuosjećanje i osobni rast kod nastavnika, kako po završetku programa tako i u okviru ponovljene procjene nakon dva mjeseca. Istovremeno, roditelji su izjavili da su primijetili višu razinu strpljenja i emocionalne regulacije. Prema Sun i sur. (2019) razina kvalitete podrške obiteljske i radne okoline utječe na profesionalni stres, te su stoga isti autori proveli istraživanje s ciljem da procijene utjecaj *mindfulness* treninga na percipiranu kvalitetu socijalne podrške i sindroma sagorijevanja kod 307 nastavnika djece s različitim teškoćama u razvoju (autizam, Downov sindrom, cerebralna paraliza, intelektualne teškoće). Istraživanjem je utvrđeno da su nastavnici koji su bili uspješniji u postizanju *mindfulness* stanja bili skloniji boljoj percepciji socijalne podrške. Naime, pridavanjem suosjećajne pažnje prema sebi i drugim osobama, smanjuje se orijentacija na negativna zajednička iskustva, potiče se zahvalnost i razumijevanje te poboljšava socijalna interakcija.

Biglan, Layton, Jones, Hankis i Rusby (2013) proveli su studiju s namjerom procjene učinkovitosti programa ACT kod odgojitelja djece s teškoćama u razvoju i obiteljskih savjetnika u području smanjenja razine stresa i depresije te osnaživanja kolegijalne podrške u ustanovi. Dvije ACT radionice, u trajanju od tri i pol sata, uključivale su metafore i iskustvene vježbe (kao npr. svjesno

komuniciranje s klijentima i suočavanje s emocionalno izazivajućim situacijama s većom kompozitnošću. Prema Benn et al. (2012), mindfulness stanje omogućuje razumijevanje reakcija klijenata bez prosuđivanja i osjetljivo odgovaranje na njihove potrebe i zahtjeve. U isto vrijeme, prakticiranje mindfulness tehnika predstavlja važan oblik brige o sebi koji može ojačati fizičku, emocionalnu i mentalnu otpornost (Grant & Kinman, 2014; Crowder & Sears, 2017).

Recentno, nekoliko studija je provedeno s ciljem dobivanja uvida u specifične domene i načine djelovanja mindfulness prakse u području pomoći profesijama povezanim s obrazovanjem i rehabilitacijom djece s razvojnim poremećajima i osobama s invaliditetom. U ovom kontekstu, Benn et al. (2012) proveli su randomizirani kontrolirani ispitivanja uključujući petotjedni program mindfulness za učitelje i roditelje djece s razvojnim poremećajima. Rezultati su pokazali značajno smanjenje stresa i anksioznosti, kao i povećanje svjesnosti, suosjećanja i osobnog razvoja učitelja, kako na kraju programa tako i pri ponovnoj procjeni nakon dva mjeseca. Istovremeno, roditelji su izjavili da su primijetili višu razinu strpljenja i emocionalne regulacije. Prema Sun et al. (2019) razina kvalitete podrške obiteljske i radne okoline utječe na profesionalni stres, te su stoga isti autori proveli istraživanje s ciljem da procijene utjecaj *mindfulness* treninga na percipiranu kvalitetu socijalne podrške i sindroma sagorijevanja kod 307 nastavnika djece s različitim teškoćama u razvoju (autizam, Downov sindrom, cerebralna paraliza, intelektualne teškoće). Istraživanjem je utvrđeno da su nastavnici koji su bili uspješniji u postizanju *mindfulness* stanja bili skloniji boljoj percepciji socijalne podrške. Naime, pridavanjem suosjećajne pažnje prema sebi i drugim osobama, smanjuje se orijentacija na negativna zajednička iskustva, potiče se zahvalnost i razumijevanje te poboljšava socijalna interakcija.

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djelovanje, opažanje i opisivanje unutarnjeg iskustva, neprosuđivanje nereaktivnost i sl.). Evaluacija programa pokazala je da program ACT može pojačati prihvaćanje unutarnjeg iskustva, osjećaj učinkovitosti te smanjiti razinu percipiranog stresa, depresije i izbjegavanja interpersonalnih odnosa. Nadalje, kod različitih stručnjaka koji su usmjereni na očuvanje mentalnog zdravlja korisnika također se pokazalo da prakticiranje *mindfulnessa* povećava fokus na terapijske procese (McGollum i Gehart, 2010), smanjuje osjećaj ljutnje (Rodriguez i sur., 2014), poboljšava svjesnu pažnju, opće psihološko blagostanje te smanjenju anksioznost i zabrinutost (Ruths i sur., 2013) U svrhu dobivanja uvida na koji način utječe primjena MBPBS treninga u odnosu na program psihoedukacije i program stručnog usavršavanja na kvalitetu života stručnog osoblja koje je pruža usluge adolescentima i odraslima s autizmom i intelektualnim teškoćama provedeno je istraživanje Singh i sur. (2020) u zajednici organiziranog stanovanja. U skupini koja je sudjelovala u MBPBS treningu uočeno je značajnije povećanje empatije, kao i smanjenje percipiranog stresa, sekundarnog traumatskog stresa, depresivnih simptoma i razina sagorijevanja u usporedbi s drugim dvjema skupinama ispitanika. Također, prethodna istraživanja potvrđuju da neprihvatljiva i problematična ponašanja osoba s intelektualnim teškoćama i drugim teškoćama u razvoju dovode do visokih razina stresa kod osoblja koje s njima radi. U tu svrhu, Singh, Lancioni, Karazsia i Myers (2016) pokušali su procijeniti učinkovitost treninga MBPBS na smanjenje stresa kod osoblja u zajednici organiziranog stanovanja, te na fluktuaciju osoblja, frekvenciju upotrebe fizičkog sputavanja za kontrolu ponašanja korisnika i učestalost ozljeđivanja korisnika. Trening MBPBS-a provodio se grupno tijekom 10 tjedana, s periodima implementacije znanja i vještina stečenih tijekom treninga. Evaluacija provedena 40 tjedana nakon početka provođenja istraživanja pokazala je značajno smanjenje primjene fizičkog sputavanja u kontroliranju agresivnih ponašanja korisnika i smanjenje učestalosti ozljeđivanja korisnika. Također je zabilježeno statistički značajno smanjenje percipiranog stresa i fluktuacije osoblja. Nadalje, analiza troškova

and Commitment Therapy programme (ACT) in reducing levels of stress and depression, as well as strengthening collegial support within the institution. Two ACT workshops were conducted, each lasting three and a half hours, along with use of metaphors and experiential exercises (such as mindfulness, observing and describing inner experiences, non-judgmental acceptance, and non-reactivity). The results of the evaluation show that the ACT programme improved the acceptance of inner experiences and sense of efficacy, and also reduced perceived stress, depression, and interpersonal avoidance. Likewise, various mental health professionals have confirmed that practising mindfulness increases focus on therapeutic processes (McGollum & Gehart, 2010), reduces anger (Rodriguez et al., 2014), improves mindful awareness and overall psychological well-being, and reduces anxiety and worry (Ruths et al., 2013). Singh et al. (2020) conducted a study in a community-based residential home to examine the impact of MBPBS training as opposed to psychoeducation and professional training programmes on the quality of life of staff who provide services to youth and adults with autism and intellectual disabilities. The group that participated in the MBPBS training showed a significant increase in empathy, as well as a decrease in perceived stress, secondary traumatic stress, depressive symptoms, and levels of burnout compared to the other two groups of participants.

Additionally, previous studies have confirmed that challenging behaviours exhibited by persons with intellectual and developmental disabilities can cause high levels of stress among the professionals who work with them. For this purpose, Singh et al. (2016) attempted to evaluate the effectiveness of MBPBS training in reducing stress among staff in a community-based residential setting, as well as staff turnover, frequency of use of physical restraint for behaviour management, and frequency of injuries caused by clients. MBPBS training was conducted in groups for ten weeks, along with an additional period within which participants implemented the knowledge and skills acquired during the training. The evaluation conducted 40 weeks after the beginning

pokazala je da sudjelovanje osoblja u MBPBS treningu dovodi do financijskih ušteda, budući da su se smanjili troškovi liječenja, bolovanja i zašljavanja zamjenskog osoblja, povezanih s manjim brojem ozljeda.

Ti ohrabrujući rezultati ukazuju na važnost interakcija koje stručno osoblje ostvaruje s korisnicima, budući da može značajno poboljšati ne samo kvalitetu života stručnjaka, već i osoba s invaliditetom (Shepard-Jones, Prout i Kleinert, 2005). Prema Chancey i suradnicima (2019), češća i kvalitetnija obostrana interakcija može imati različite dobrobiti za korisnike, uključujući povišenu razinu sreće, smanjenje neprihvatljivog ponašanja te povećanu neovisnost u svakodnevnim vještinama. Na temelju tih spoznaja, isti su autori nadalje ispitali mogućnost primjene programa ACT kod stručnjaka u ustanovi za osobe s različitim vrstama invaliditeta, a ispitanici su bili odabrani na temelju malog broja pozitivnih interakcija s korisnicima. Opservacija ponašanja ispitanika provedena nakon programa ACT pokazala je povećanje pozitivnih interakcija s korisnicima, što se može pripisati stavu prihvaćanja, neprosuđivanja te svjesnoj usredotočenosti na ponašanje korisnika u sadašnjem trenutku, umjesto na negativna iskustva iz prošlosti. Osim toga, postizanje *mindful* stanja može omogućiti stručnjacima da s većom pažnjom primijete pozitivna potkrepljenja u svom radu, kao što su, na primjer, osmijeh korisnika tijekom njihove interakcije ili pohvala suradnika za kvalitetno obavljen posao.

Samostalna provedba *mindfulness* tehnika, kao oblik samopomoći, može imati različite dobrobiti u okviru zaštite mentalnog zdravlja, psihofizičke otpornosti i većeg zadovoljstva osobnim životom. Međutim, za prevenciju i/ili ublažavanje profesionalnog stresa također je preporučljivo prakticiranje *mindfulnessa* u okviru grupe jer pozitivna grupna dinamika može potaknuti proces zbližavanja, izražavanja osjećaja i doživljaj prihvaćanja suradnika (Canby i sur., 2021). Na neki način, zajedničko prakticiranje *mindfulness* tehnika i *mindfulness* stanja može biti razmatrano kao moguća baza za uspješnije provođenje timske supervizije/intervizije ili uobičajeno svakodnevno druženje,

of the training showed a significant reduction in the use of physical restraint to control aggressive client behaviour and a decrease in the frequency of injuries caused by clients. Additionally, a statistically significant decrease in perceived stress and staff turnover was found. The cost analysis also showed that staff participation in the MBPBS training resulted in financial savings, since the cost of medical treatment, sick leave, and hiring replacement staff decreased due to fewer injuries.

These encouraging results emphasise the importance of interactions between professionals and clients, since they can significantly improve not only the quality of life of professionals, but also of their clients (Shepard-Jones, Prout, & Kleinert, 2005). According to Chancey et al. (2019), positive reciprocal interactions can have various benefits for clients, including more satisfaction, reduced unacceptable behaviours, and more independence in daily living skills. Based on these findings, the same authors explored the possibility of implementing ACT programmes in the context of professionals in institutions for people with various disabilities, where participants were selected based on a low number of positive interactions with clients. The behavioural observations conducted after the ACT programme showed an increase in positive interactions with clients, which can be attributed to attitudes of acceptance, non-judgment, and mindful focus on the client's behaviour in the present moment, rather than on negative experiences from the past. In addition, achieving a mindful state can enable professionals to pay more attention to positive reinforcements in their workplace, such as a client's smile during an interaction or praise from colleagues for a job well done.

Practising mindfulness techniques in their personal life as a form of self-help can have various benefits in the areas of mental health protection, psychophysical resilience, and greater satisfaction with one's personal life. However, to prevent and/or alleviate professional stress, it is also advisable to practice mindfulness within a group at the workplace, since positive group dynamics can encourage processes of bonding, expression of feelings, and acceptance by colleagues (Canby et al.,

bez sukoba i netrpeljivosti (Imel, Baldwin, Bonus, i Maccoon, 2008; Wampold i Imel, 2015).

Edukacije usmjerene na primjenu *mindfulnessa* u različitim područjima edukacije i rehabilitacije započele su i u Hrvatskoj te se kao jedan od primjera može navesti program „Primjena *mindfulnessa* u obrazovanju” koji provodi udruga „Mindfulness Hrvatska“ u razdoblju od 2023. do 2024. i koji je namijenjen učiteljima, nastavnicima i stručnim suradnicima s ciljem unaprijeđenja njihove dobrobiti i pedagoških kompetencija. Program promiče mentalno zdravlje, socijalno-emocionalno učenje te razvoj ključnih vještina poput emocionalne regulacije, kritičkog mišljenja i metakognicije (<https://www.mindfulness-hrvatska.hr/2023/09/29/upisi-primjena-mindfulnessa-u-obrazovanju/>). Ove i slične aktivnosti rezultat su spoznaja da su stručnjaci iz pomagačkih profesija, a posebno oni koji sudjeluju u edukaciji i rehabilitaciji djece s teškoćama u razvoju, često izloženi profesionalnom stresu i sagorijevanju, što negativno utječe na njihovo zdravlje, radnu učinkovitost i odnose s korisnicima. Istraživanja pokazuju da određeni *mindfulness* programi, poput MBPBS i ACT, smanjuju depresiju i razinu percipiranog stresa, a istovremeno povećavaju empatiju, emocionalnu regulaciju i kvalitetu interakcija s korisnicima. Grupno prakticiranje *mindfulnessa* dodatno potiče osjećaj prihvaćanja i timske suradnje, što doprinosi boljoj kvaliteti rada i povećava dobrobit stručnjaka i korisnika.

ZAKLJUČAK

Rezultati dosadašnjih istraživanja upućuju na pozitivne utjecaje *mindfulnessa*, u okviru njegove formalne ili neformalne primjene, na tjelesne, psihoemocionalne i socijalne dimenzije temeljene na promjenama u neurološkom i endokrinološkom statusu te aktivnostima autonomnog živčanog sustava. Promjene se također očituju u doživljaju sebe, kvaliteti međuljudskih odnosa, razini percipiranog stresa te usvojenim tehnikama i strategijama suočavanja s nepovoljnim životnim situacijama. Uzimajući u obzir navedene dobrobiti, koje se također javljaju kod djece s teškoćama u razvoju i osoba s invaliditetom, njihovih roditelja i stručnjaka uključenih u terapijski proces, javlja

(2021). In a sense, collectively practising mindfulness techniques and mindful states can be seen as a potential foundation for more successful team/peer supervision or daily togetherness that is free of conflict and intolerance (Imel, Baldwin, Bonus, & Maccoon, 2008; Wampold & Imel, 2015).

Mindfulness training programmes have also been launched in Croatia in various areas of education and rehabilitation. One example is the “Application of Mindfulness in Education” programme, which is being implemented by the “Mindfulness Hrvatska - Mindfulness Croatia” association between 2023 and 2024. This programme aims to improve the well-being and pedagogical competencies of teachers, educators, and other professionals. The programme promotes mental health, social-emotional learning, and the development of key skills such as emotional regulation, critical thinking, and metacognition. These activities stem from the recognition that professionals in the helping professions, especially in the education and rehabilitation of children with developmental disorders, are often exposed to professional stress and burnout, which negatively affects their health, professional effectiveness, and relationships with their clients. Research shows that certain mindfulness programmes such as MBPBS and ACT reduce depression and perceived stress, while improving empathy, emotional regulation, and the quality of interactions with clients. Group mindfulness practices further foster a sense of acceptance and teamwork, which contributes to improving the quality of work and enhancing the well-being of both professionals and clients.

CONCLUSION

The results of recent research on this subject indicate the positive effects of mindfulness, in both formal and informal applications, on physical, psychoemotional, and social dimensions based on changes in neurological and endocrinological status, as well as autonomic nervous system activity. These changes are also reflected in self-perception, the quality of interpersonal relationships, perceived stress levels, and adopted techniques and coping strategies for dealing with adverse life situations. Considering the benefits

se potreba daljnjih razmatranja primjene *mindfulnessa* u edukacijsko-rehabilitacijskim uvjetima. Dodatna pozitivna okolnost je ta što se do sada nisu uočile neke neželjene ili štetne posljedice tijekom primjene *mindfulness* intervencija (Wong i sur., 2018, Prijatelj i sur., 2022)

Međutim, imajući u vidu trend sve većeg broja istraživanja u ovom području potrebno je više pažnje posvetiti metodologiji istraživanja, budući da se ograničenja nekih dosadašnjih istraživanja temelje na nejasnom dizajnu, malom uzorku ispitanika, kratkom razdoblju praćenja te nedosljednoj terminologiji, metodama i instrumentima procjene. Nadalje, u cilju dobivanja detaljnijeg uvida u primjenu *mindfulnessa*, potrebno je unaprijediti istraživačku metodologiju kombiniranjem kvalitativnih i kvantitativnih metoda istraživanja. Takav pristup omogućio bi iskorištavanje prednosti obaju metoda te sveobuhvatnije istraživanje učinkovitosti i primjene *mindfulnessa* u ranjivim skupinama, uključujući djecu s teškoćama u razvoju, osobe s invaliditetom, njihove roditelje te stručnjake koji sudjeluju u njihovoj edukaciji i rehabilitaciji. Naime, s obzirom na to da neke varijable procjene uključuju subjektivnu dimenziju iskustva, konteksta i značenja (npr. doživljaj sebe, međuljudski odnosi, uzroci distresa i dr.), bilo bi korisno istražiti perspektivu korisnika primjenom metoda kao što su intervjui, fokus grupe ili vođenje osobnog dnevnika. Time bi se omogućila detaljnija analiza potreba korisnika, prikladnih tehnika te iskustava povezanih s *mindfulness* praksom, što bi pridonijelo učinkovitijem oblikovanju budućih intervencija. Također, potrebno je dodatnu pažnju usmjeriti na razmatranje etičkih pitanja i jamstva sigurnosti u skladu s praćenjem nuspojava i reguliranjem propisa o potrebnim kvalifikacijama voditelja *mindfulness* programa. Nadalje, potrebno je potaknuti istraživanja koja bi za cilj imala procjenu ovog pristupa u povezanosti s nekim drugim intervencijama (npr. farmakoterapijom, različitim psihoterapijskim pravcima, pojedinim komplementarnim terapijama i dr.). Isto tako, u današnje se vrijeme, kao zanimljivo područje procjene, ističe i ispitivanje dobrobiti primjene *online mindfulness* programa, odnosno, kako omogućiti internetsku alternativu u smislu pristupačnosti i

observed in children with developmental disorders, persons with disabilities, their parents, as well as the professionals involved in their therapy, there is a need for further research on the use of mindfulness in educational and rehabilitation settings. It is important to note that no significant adverse effects have been observed with the use of mindfulness interventions.

However, given the increasing number of studies in this area of research, more attention needs to be paid to research methodology, since the limitations of certain previous studies are due to unclear study designs, small sample sizes, short follow-up periods, as well as the use of inconsistent terminology, methods, and assessment tools. Additionally, to gain a more detailed insight into the use of mindfulness, it is also necessary to improve the research methodology by combining qualitative and quantitative research methods. In this way, the benefits of both methods can be utilised, allowing for a more comprehensive investigation of the effectiveness of using mindfulness in vulnerable groups, including children with developmental disorders, people with disabilities, their parents, and professionals involved in their education and rehabilitation. Given that some of assessment variables included the subjective dimension of experience, context, and meaning (e.g., self-experience, interpersonal relationships, causes of distress, and so on), it would be useful to explore the users' perspective using approaches such as interviews, focus groups, or journaling. This would allow for a more detailed analysis of the user's needs, as well as appropriate techniques and experiences related to mindfulness practices, which would contribute to a more effective design for future interventions. There is also a need to consider ethical issues and ensure safety by monitoring side effects and regulating the qualifications of mindfulness trainers. Furthermore, future research should investigate the benefits of combining mindfulness with other interventions such as pharmacotherapy, different psychotherapeutic approaches, or complementary therapies. It is important to consider the benefits of online mindfulness training and how to make such training sessions more accessible and cost-effective. Further research should focus on designing

ekonomičnosti. I, naravno, neophodno je daljnja istraživanja usmjeriti na koncipiranje prikladnih modela prilagodbe *mindfulness* intervencija u skladu sa specifičnim potrebama pojedinca ili grupe korisnika te na temelju njihovih mogućnosti i razine motivacije. Tako bi se, posebice u našoj zemlji gdje nedostaje dovoljno istraživanja, doprinijelo brojnijoj i učinkovitijoj primjeni *mindfulnessa* u području edukacijske rehabilitacije.

appropriate mindfulness interventions that are tailored to the specific needs of individuals or groups of users, taking into account their capabilities and motivation levels. This will contribute to a wider and more effective use of mindfulness in the field of education and rehabilitation.

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