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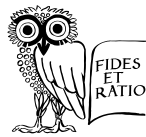
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Self-compassion as a resource in the parenting role¹

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Abstract: The aim of the article is to present self-compassion as a resource in the context of performing a parental role and its importance for interactions with a child. The study included an analysis of existing data. A meta-analysis of concepts related to the main variable described in the article and their relationships with parenting was performed. Self-compassion, as a variable conducive to a person's mental well-being and coping with difficulties, is an important factor that helps in fulfilling parental roles, supporting the child's development and building a healthy relationship with the child. Source analyzes allowed to show self-compassion as an important resource and a factor supporting coping with negative affect, difficulties, as well as supporting the parent's psychological functioning. It is an important area of human development and adaptability—also in the role of a parent. Theoretical analyzes presented in this study lead to recommendations for research on the development of self-compassion among parents as a variable supporting their functioning.

Keywords: self-regulation, parenting stress, mindful parenting, mindfulness, self-compassion

Introduction

Parenting is without doubt a highly demanding role in one's life. It is, on one hand, connected with happiness and a sense of fulfillment, but it is also true that each parent experiences numerous difficulties in various daily tasks, from strictly parenting-related to those that combine realization of other obligations, such as integrating the family and the professional life. Difficulties and challenges experienced by the parent can unfortunately have negative impact on the quality of their parenting and unfavourably influence the functioning of the child, their caretakers, and their relationship (Chaplin et al., 2021). This context gives validity to the researchers' interest in the resources which might support parents in fulfilling their role.

According to the concept developed by Hobfoll (1989), an individual's resources are used to facilitate their survival and obtaining new resources, which are needed to build psychological resilience that helps the person cope with difficult experiences and their outcomes, and to continue their activities despite the encountered stressors (Jazukiewicz, 2021).

Undoubtedly, the role of the parent is accompanied by a number of various challenges. Maintaining the parent's involvement in spite of the effects of these challenges is crucial not only in the process of raising children and building the parent-child bond, but also in supporting the mental wellbeing of the parents.

It is with increasing frequency that researchers indicate self-compassion as a psychological variable that might favourably affect parental influence on the children and play the role of a resource of the parents' wellbeing and their ability to cope (Gouveia, Carona, Canavaro, Moreira, 2016). The goal of this article is to present self-compassion as a significant resource in parenting.

1. The concept of self-compassion and its components

The concept of self-compassion was created by Kristin Neff (2003), who describes it as “being open and sensitive to one's own suffering, at the same time showing oneself kindness, adopting the attitude of

¹ Article in polish language: https://www.stowarzyszeniefidesetratio.pl/fer/58P_Zmud.pdf

understanding and non-judgment towards one's own inadequacies and failures, becoming aware that one's own experience is part of shared human experience" (ibid., 224). Individuals with the capacity for self-compassion display a lower tendency to compare themselves with other and be critical towards their own feelings, thoughts, or behaviours, which enables them to more accurately attribute their own and other people's actions and increases their tolerance (Leary, Tate, Adams, Batts Allen, Hancock, 2007). Self-compassion is defined as a state or a trait (Neff, 2003; Leary et al., 2007). It is manifested in one's ability to care for oneself and a healthy attitude towards oneself (Dzwonkowska, 2013).

Neff (2003) emphasizes that in order to examine one's self-compassion, we need to begin with the concept of suffering – the unwanted experience that causes us pain, physical or emotional. It is worth stressing that denial and avoidance of suffering increases its level (Neff, Germer, 2022). Self-compassion is a factor that enables the individual to accept suffering the way it is and thus, helps them cope with it (ibid.).

Individuals characterized by self-compassion display less self-criticism, lower tendency towards self-judgment, and less frequently compare themselves to others (Neff, 2003). A significant characteristic found in those people is the capacity to accept their thoughts and emotions as they are – without judgment or denial. This ability allows them to gain distance and increases their self-awareness (Dzwonkowska, 2013).

Neff (2003, 2011) defines three dimensions of self-compassion: self-kindness, mindfulness, and common humanity. Each of these dimensions is described as a spectrum existing between high and low levels of a specific category.

The first category, the dimension of self-kindness, is connected with specific personality traits. According to K. Neff (2003), the self-kindness factor is related to one's sympathy towards oneself, which is significant in situations when the individual, in their own view, does not meet their own or others' requirements, which generates the feeling of frustration. Georgakaki and Karakasidou (2017) describe this dimension as self-oriented good will related to

self-understanding, supporting oneself, and treating oneself as a friend. Showing oneself understanding involves offering oneself kindness and accepting oneself and the mistakes one makes. In the face of the latter, it is important to comfort and support oneself – just like one would a friend (Neff, Germer, 2022, p. 20-21). The opposite of self-compassion is self-criticism, harsh judgment, noticing only one's mistakes and shortcomings, and absorption in the feeling of shame and embarrassment (Neff, 2011; Yarnell, Neff, 2013).

The next component of self-compassion is mindfulness, which refers to the ability to be aware of one's feelings and accept them as they are (Dzwonkowska, 2013, p. 303-304; Neff, 2003). It is manifested in focusing one's attention on feelings, but refraining from judgment, and to becoming aware of one's emotions without suppressing or controlling them (Kabat-Zinn, 2003). Mindfulness is a broad concept, relevant to the entirety of the human experience (Neff, Germer, 2013, p. 2), but in self-compassion, it is understood in a more narrow sense, in which it refers to gaining awareness of one's negative thoughts and emotions regarding personal suffering. Neff (2003) claims that this aspect of mindfulness is the first step and a necessary condition for self-compassion, since, in order to offer it to oneself, one must begin by recognizing and accepting the fact that one is experiencing suffering. Additionally, mindfulness facilitates the identification of one's needs which must be fulfilled so as to not cause us pain (Neff, Germer, 2022). Recognizing one's own needs allows the individual to know themselves better and builds self-acceptance, which are necessary for self-compassion (Hanson, 2020). The opposite of mindfulness is excessive identification with the experienced emotions, absorption with one's thoughts, and negative judgment of those thoughts, combined with guilt (Neff, 2003).

The final category of self-compassion is common humanity, which refers to the ability to perceive one's own experiences (including suffering) as an element of the general human experience. This component allows the individual reduce the sense that nobody else makes the kind of mistakes that they make, has as many shortcomings, or experiences as many failures.

The context in which this aspect gains particular significance is the one of the human inclination towards comparing oneself with others, which, in the modern day, is additionally encouraged by social media. People frequently feel inferior and lonely with their problems, assuming that others are better equipped to cope with them. Neff and Germer (2022) stress that when we experience many difficult emotions, we tend to focus on ourselves and our own suffering and think less rationally, which leads to the sense of being alone with our problems and experiences. The dimension of common humanity refers to the conviction that all people experience difficulties and suffering, and many problems that we face are identical to those of others. The opposite of the sense of shared experience with other people is the sense of loneliness and isolation from others who, in our view, are more successful, more skilled, and better at coping with difficulties (Neff, Kirkpatrick, Rude, 2007, p. 140).

These components of self-compassion remain in the relationship of mutual dependencies. Mindfulness equips the individual with the capacity to gain distance from their own experiences, which facilitates increased sympathy towards oneself, as well as the sense of sharing their experience with the rest of humanity (Neff, 2003). Increased sympathy towards oneself supports mindfulness and accepting experiences as they are, which, in turn, has positive impact on the sense of community with other people and treating one's suffering as a normal human experience. The sense of shared experience facilitates the ability to accept and understand oneself (Dzwonkowska, 2013).

In order to better understand the significance of self-compassion in parenting, it is necessary to refer its particular dimensions to parenting and analyzing them in its context.

2. Self-compassion in parenting

Self-compassion is relevant in difficult situations in which an individual experiences unpleasant emotions, problems, and failures. The experience of parenting is frequently involves mistakes and is connected with the

sense of having failed (one's own and other people's) expectations. In the context of the fact that family and children are one of the most important values for a human being, failures in this dimension of life may be particularly painful, which has influence on the person's mental well-being and their sense of satisfaction with life. In this context, the dimension of self-compassion is of particular importance.

The mental state of the parents and their well-being are crucial factors in the development and mental health of their children, as evidenced by numerous studies (e.g. Beatson, Taryan, 2003; Pine et al., 2005; Zimmermann, Stansbury, 2004).

Self-compassion directed towards oneself allows the individual treat themselves with kindness, look after themselves, and forgive themselves their mistakes. Self-directed empathy facilitates self-kindness (Neff, 2003). Individuals who display sympathy and empathy towards themselves tend to also offer it to others and more frequently feel comfortable in interpersonal relationships (Neff, 2011). Thanks to self-compassion, the parent is more open and empathetic towards the emotions and behaviours of their child, which undoubtedly facilitates the formation of a healthy relationship between them. Research shows that individuals with a higher level of self-compassion more often experience positive affect and they are characterized by increased acceptance of other people (ibid.)

Self-compassion (combined with the ability to distance oneself from one's thoughts or emotions) constitutes an important factor supporting human self-regulation (Neff, Vonk, 2009). Excessive criticism of oneself, however, may trigger mechanisms which limit one's ability to reflect on one's emotions, actions, and situations in which one finds themselves, as a result negatively affecting the person's capacity for self-regulation (Leary et al., 2007). According to the study on self-regulation conducted by Edler and Valentino (2024), it is a trait with a decisive impact on the parent's behaviour towards the child and a positive influence on the effects of parenting. Self-compassion and self-kindness decrease the frustration generated by fulfilling the role of the parent. What is more, a higher level of self-directed sympathy is related to a lower level of stress and self-criticism (Neff, Germer,

2022). Lunkenheimer, Sturge-Apple, and Kelm (2023) have conducted a review of studies which show that parental self-regulation is a significant factor also in the development of the child's skills in the same area.

Psychogiou et al. (2016) have proven that parents with a highly developed self-compassion are less critical towards their children and better equipped to cope with their emotions. It is likely to be connected with the positive interdependence between self-compassion and emotional intelligence (Heffernan, Quinn Griffin, McNulty, Fitzpatrick, 2010). Emotional intelligence facilitates appropriate attitudes in the parents, in particular positive communication with the child (Belean, Năstasă, 2017).

Sirois, Bögels and Emerson (2019) have conducted studies on parents of children aged up to 12 in which they were requested to recall a situation in their life as parents in which they felt guilt or shame. The group of parents who received a piece of advice that could encourage self-compassion experienced, during the experiment, less guilt and shame in comparison with the control group, which indicates that self-compassion plays a significant role in alleviating the effects of difficult emotions.

Leary et al. (2007) have conducted a series of interesting studies in which they indicated that self-compassion is a significant factor in the process of coping with difficult situations in life, with memories of those situations, as well as with negative feedback. The research showed that self-compassion decreases the intensity of emotions of negative valence, protects the individual from the sense of being burdened with unpleasant affect, and facilitates self-appreciation. Interestingly, the impact of self-compassion was particularly visible in individuals with a low self-esteem who it allowed to experience difficult emotions less intensely. Coping with negative affect and negative feedback is highly significant in the context of parenting, in which the individual is frequently judged by other people and experiences numerous unpleasant emotions, a sense of being overwhelmed and inadequate (Crowe et al., 2011; Rojewska, 2023). The researchers (Leary et al., 2007) stress that self-compassion may be a better method of protecting the individual from the impact of negative experiences than self-esteem.

To summarize, self-compassion decreases the level of self-criticism not only in the parents towards themselves, but also their criticism towards their children (Psychogiou et al., 2016). (Lunkenheimer, Sturge-Apple, Kelm, 2023). Moreover, sympathy and kindness towards oneself alleviates negative affect and helps cope with it (Leary et al., 2007)

3. Mindful parenting

Self-reflection, or mindfulness, is a particularly significant component of self-compassion. The interest in parental mindfulness begun with Jon and Myla Kabat-Zinn's (1997, as cited in Wegner, Wojciechowska, 2016) postulate the inclusion of mindfulness in the category of parental practices. In recent years, researchers have paid increased attention to this concept (e.g. Bögels, Lehtonen, Restifo, 2010; Duncan, Coatsworth, Greenberg, 2009; Gouveia et al., 2016; Moreira et al., 2016). Parental mindfulness is defined as a parenting style based on the parent's complete presence in their interactions with the child, adopting an attitude of non-judgment, complete acceptance of the child, and sympathy both for the child and for oneself (Moreira, Gouveia, Canavarro, 2018). According to the researchers (e.g. Duncan et al., 2009), mindfulness can be considered one of the basic parenting skills.

Duncan et al. (2009, p. 258) have created the model of mindful parenting which divides it into 5 dimensions: attentive listening, the attitude of acceptance without judgment towards the child and oneself, awareness of one's own emotions and of those of the child, development of self-regulation (particularly in the role of the parent), and sympathy towards oneself and the child. The latter is defined by the author as "empathetic concern and willingness to alleviate suffering" (ibid., p. 260). The fact that mindfulness equips the parent with a higher tendency to offer support and fulfill their own and the child's needs is of particular importance.

Mindful parenting supports positive, safe relationships between parents and children (Medeiros, Gouveia, Canavarro, 2016) and is connected with the parents' ability to more efficiently cope with the challenges they encounter in their role (Sirois et al., 2019).

Mindfulness has impact on the reduction of stress in the parent (Gouveia et al., 2016). Research shows that parental mindfulness plays a role in decreasing the symptoms of depression and the level of anxiety in the parents, and in overall improvement of their health (Alexander, 2018). Other research (Felder, Lemon, Shea, Kripke, Dimidjian, 2016), conducted on women during pregnancy and after giving birth, have shown that a higher level of self-compassion coincided with a lower level of anxiety, fear, and symptoms of depression in the perinatal period.

The results of studies conducted by Lippold, Duncan, Coatsworth, Nix i Greenberg (2015) suggest that mindful parenting has positive impact on the communication between the mother and an adolescent child; it decreases the parents' tendency towards negative reactions as well as the perceived parental control. It also improves the affective quality of the relationship between the mother and the adolescent.

The results of the studies which indicate that mindful parenting has positive influence on the symptoms of depression and anxiety in adolescents (Geurtzen, Scholte, Engels, Tak, van Zundert, 2015), and on improved mood in children and youth (Me-deiros et al., 2016) are of particular importance. Moreover, Turpyn and Chaplin (2016) have proven that mindful parenting and positive interactions with the parents determined a lower likelihood of abuse of psychoactive substances by adolescents. Studies conducted by Calvete, Gómez-Odriozola oraz Orue (2021) have indicated the existence of a positive correlation between mindful parenting and the children's well-being. They have also concluded that mindfulness is particularly important in the context of parental impact on the children with a lower level of dispositional mindfulness.

Research conducted on parents of children at different ages (Gouveia et al., 2016) has shown that the higher the level of mindfulness in parenting and self-compassion in the parents, the lower was the displayed level of authoritarian and permissive parenting style. In their review of studies on mindful parenting, Bögels et al. (2010) emphasize its capacity for significantly increasing the degree of the attention that one pays both to oneself and one's child, which has positive impact on the child's development.

4. The sense of shared experience with other parents

Various difficulties connected with fulfilling the role of the parent can generate unpleasant emotions, including frustration, helplessness, or even blaming oneself for being a bad parent (Crowe et al., 2011). Making mistakes and emotional reactions to difficult situations are not always consistent with the parent's expectations of themselves and the way they perform their role as a parent; the social pressure, judgment by others, certain trends that appear in social media that can influence one's perception of how they should conduct or how other people live can all make parenting increasingly difficult.

The sense of common human experience allows the parent to not feel isolated in their problems; they know that they share their experience with others. This perspective encourages more acceptance and openness towards one's own experiences – which one perceives as more real – which helps one apply various active coping strategies and seek support (Neff, Germer, 2022).

Studies by Neff (2011) have shown that self-compassion decreases the tendency to compare oneself with others and increases the individual's stability, which appears particularly significant in the context of parental roles, which expose the parent to the risk of being compared with other parents. The same studies have proven that the higher self-compassion, the lower the tendency towards cognitive closure (that facilitates superficial analysis of information). Parenting is connected with the necessity to react in flexible ways, adapt to different situations, and seek solutions and causes of problems (such as the causes of specific behaviour in the child). The lower tendency towards cognitive closure may, therefore, facilitate the parent's flexibility and cognitive openness.

The sense of common humanity helps the parent perceive their own action from a less critical perspective and offer oneself more sympathy; it is particularly important in the context of frequently high expectations that parents have of themselves and their effort, and their tendency to compare themselves with others (often without being aware of the entire context of the situation and the other

parents' behaviour). The sense that one's experiences are part of the general human experience, connected with self-directed sympathy allows one consider a higher number of factor that play a role in a specific situation and avoid judging oneself in the context of failur (Neff, 2003). This makes it possible to renew one's investment in their role as a parent, as no energy is lost on negative rumination and processing the negative affect caused by blaming oneself for the failure. The parent's energy may be applied to actions which realize their role as a parent and uphold their values (cf. Harris, 2022). Moreover, the sense of common humanity shared with other parents may decrease the fear of judgment that is often experienced by parents in the context of perception of their parental practices by others. The sense of community with others in one's experiences facilitates the development of the belief that difficulties, problems, and failures are a natural part of a parent's life, which decreases the tendency to self-judgment (Dzwonkowska, 2013).

5. Self-compassion in parents of children with special needs

Parents whose children struggle with illnesses, developmental disorders, or behavioural issues may experience particular challenges connected with caring for and raising their children. A number of studies have been conducted on parental stress (e.g. Kochanová, Pittman, McNeela, 2022; Pisula, Noińska, 2011) that is commonly experienced by those parents. The researchers were interested also in protective factors which might support parents in coping with their everyday challenges connected with caring for children with special needs.

Studies (Shenaar-Golan, Wald, Yatzkar, 2021) conducted on parents of children with mental health issues have shown that a higher level of self-compassion in the parents co-occurs with more frequently experiencing emotions of positive valence and less frequently unpleasant ones. They also display an overall higher level of mental well-being. Authors (ibid.) suggest that self-compassion may act as a protective factor between the child's illness and the parent's psychological well-being. Similar conclusions were also reached by

Neff and Faso (2015) in studies on parents of autistic children. The studies indicated that, in those parents, a higher level of self-compassion co-occurred with a higher level of hope and a higher satisfaction with life. The same study has shown that a negative relationship exists between self-compassion and parental stress and depression. Interestingly, self-compassion determined the parents' mental well-being to a higher degree than the exacerbation of the symptoms of the child's disorder. It is particularly significant in the context of parents of children diagnosed with autism, as this group of parents experiences more intense stress in comparison with the parents of children with different types of health or developmental disorders (Pisula, 2007). Studies by Pisula and Noińska (2011) have indicated that a higher level of one's positive perception of their experiences as a parent correlates to a lower level of stress.

Other studies conducted on parents of children with autism (Beer, Ward, Moar, 2013) have shown that a more mindful parenting correlates with decreased symptoms of depression and a lower level of experiences stress. Interestingly, a lower self-compassion in the parents was connected with a higher level of behavioural problems in their children. Wong, Mak, and [Yu-Hsin Liao](#) (2016) have also conducted studies on parents of children on the autism spectrum, in which they controlled the received social support and positive orientation of the parents. The research has shown that self-compassion was a significant factor protecting the studied parents from psychological distress.

Parents with children who struggle with physical or mental health issues frequently blame themselves for the development of those issues (e.g. Crowe et al., 2011; McDonald, O'Brien, Jackson, 2007). In the light of the fact that many parents occasionally experience guilt in the context of their own behaviour towards their child, a self-compassionate attitude towards oneself is a significant factor which may protect one from excessively blaming oneself. It is worth noting that such components of self-compassion as mindfulness or kindness towards oneself are particularly helpful in coping with these experiences. Thanks to mindful and compassionate approach to one's own experiences and feelings, the individual

becomes more aware of both their own experiences and the sources of their emotions, which allows to cope with them more effectively.

Conclusions

Self-compassion is a universal resource. It improves one's mood and well-being (Miller, Lee, Niu, Grise-Owens, Bode, 2019; Moreira, Carona, Silva, Nunes, Canavarro, 2016), and constitutes an important predictor of the sense of happiness and positive affect (Neff, Vonk, 2009).

Researchers (e.g. Duncan et al., 2009; Psychogiou et al. 2016) claim that the development of self-compassion by parents has positive impact on the quality of their parenting. The present study cites numerous studies which show the beneficial influence of self-compassion on self-regulation, coping, and realizing one's role as a parent.

Parental self-compassion benefits their role as parents in two ways: it has positive impact on the parent's well-being and their ability to cope with difficulties; simultaneously, it helps the parent offer better support to their child, build a deeper relationship between them, and teach them how to regulate their emotions or build relationships with other people (cf. Belean, Năstasă, 2017).

Self-compassion determines the parent's psychological well-being and has favourable influence on their mental state (e.g. Gouveia et al. 2016); it also decreases the parental stress (e.g. Neff, Faso, 2015). The caretaker's well-being and their coping skills are of considerable importance in the process of building their relationship with the child, the impact of their parenting practices, and their support for the child's development, among others in the context of self-regulation. This occurs due to the fact that self-compassion facilitates accepting one's emotions, openness to different experiences, including difficult ones, and coping with negative affect (e.g. Gouveia et al., 2016). Importantly, self-compassion encourages one to be more accepting of the feelings of others, which is particularly important in one's relationship with a child who is still learning to regulate their own emotions.

Studies to date (Ewert, Gaube, Geisler, 2018; Sirois, Molnar, Hirsch, 2015) confirm the dependencies between self-compassion and coping strategies in difficult situations. A positive correlation has been found between self-compassion and coping mechanisms in stressful situations connected with active coping in one's role as a parent (Sirois et al., 2019). The higher the self-compassion an individual offers oneself, the less frequently they apply avoidant strategies and the more efficiently they adapt to challenging situations (Chishima, Mizuno, Sugawara, Miyagawa, 2018). There is no doubt that problem solving is an important parenting skill which allows one to better cope with difficulties and maintain their psychological well-being. It is through modelling their own behaviour that the parent teaches the child adaptational coping strategies. The parents' ability to show oneself compassion has positive impact on their children. To quote Hanson (2020, p. 19), "being kind to oneself is being kind to others". Other studies (Moreira, Gouveia, Carona, Silva, Canavarro, 2014), conducted on mothers of children within the age range of 8 to 18 confirm that a higher level of self-compassion in the mother correlates to not only a lower parental stress level in her, but also to a higher quality of the child's life.

Numerous studies indicate that self-compassion may be formed through practical exercises, such as mindfulness training (Neff, 2011). Studies show that the practice of mindfulness may additionally increase other factors of self-compassion (Birnie, Speca, Carlson, 2010), whose development is possible also due to the practice of compassionate reappraisal (see Neff, Germer 2013) or even only a short meditation session (Boellinghaus, Jones, Hutton, 2014; Albertson, Neff, Dill-Shackleford, 2015). Studies by Neff and Germer (2013), who verified the effectiveness of the eight-week self-compassion training, have indicated that participation in the training significantly increases the level of mindfulness and general self-compassion. Interesting research has been conducted by Georgakaki and Karakasidou (2017), who experimentally confirmed that positive internal dialogue has influence on the increase of the level of self-compassion as well as reduction of anxiety.

The concept of self-compassion as a factor supporting the functioning of an individual in the face of various challenges and obstacles requires further research. The issues of the determinants of self-compassion and the capacity for its development in an individual are both significant. Modern parents must cope not only with the necessity to combine various

roles in life, but also with high expectations, social judgment, pressure, as well as the pace of life and the necessity to manage numerous obligations. It appears that self-compassion is an important resource which may offer significant support in the particularly important but also difficult role of the parent.

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The relationship between parental attitudes and the assessment of the benefits and risks of screen devices use among children in early primary school years¹

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Abstract: Nowadays, children increasingly choose screen devices as a form of communication and spending free time, which raises concerns about the potential harmfulness of excessive use of them. Therefore, it seems important to look at the issue of using screen devices from the perspective of parents and their attitudes towards children themselves, as well as in relation to the use of screen devices in everyday life. The aim of the presented study was to demonstrate the relationship between parental attitudes, parent's gender and the assessment of the benefits and risks associated with children's screen devices use. The research tools used in the study included *The Parental Attitudes Scale* (SPR) by Mieczysław Plopa (2008), covering six parental attitudes, and original *The Screen Usage Questionnaire* (KKE) to measure the attitude towards screen use by children. The article discusses theoretical aspects of parental attitudes towards children and screen use, as well as the benefits and risks of children's screen devices use in the early primary school years. The operationalization of variables in research tools was presented. The study involved 173 participants aged 29-44 years ($M = 36.56$; $SD = 3.16$; $Me = 37$), including 127 mothers and 47 fathers of children aged 7-10 from the Podkarpackie. No correlation was found between parental attitudes and their assessment of the benefits and risks associated with screen devices use. However, the differences were observed between mothers and fathers in the assessment of benefits and risks. The research results indicate the need for education on digital parenting. Mothers assessed the use of screens neutrally or negatively, while fathers assessed it neutrally or positively, hence the conclusion regarding preventive activities is to direct various educational interventions towards fathers and mothers. These findings indicate the need to support parents introducing children to the digital world in effective education regarding the use of screen devices.

Keywords: benefits and risks of screen devices use, children's screen exposure, media psychology, new media, parental attitudes

Introduction

In contemporary times, children increasingly choose screen devices such as computers, laptops, televisions, smartphones, gaming consoles, or tablets as a form of communication and leisure. This trend raises concerns about the potential harm of excessive screen use. The aim of this article is to examine the issue of screen usage from the perspective of parents and their attitudes. Parents face the challenge of shaping their children's screen behaviors, prompting reflection on how they perceive screen device use and its relationship to their parenting attitudes. The parent-child-screen triad presents a modern challenge that requires research to determine practical implications

for supporting parents in ensuring safe, responsible, and creative screen use by children while harnessing the potential benefits and avoiding risks. Research indicates that the role of adults in guiding younger generations through the online world is crucial (Appelt, Jarzembowska, 2020).

1. Parental attitudes

Attitude refers to a relatively stable tendency for positive or negative evaluation of any object (Wojciszke, 2005). Parental attitude, like other attitudes, com-

¹ Article in polish language: https://www.stowarzyszeniefidesetratio.pl/fer/58P_Dank.pdf

prises three components: cognitive (beliefs about the child), affective (emotional stance), and behavioral (parental actions toward the child). This means that parents think about their child in a certain way, experience positive or negative emotions toward them, and express these feelings through their behavior (Ziemska, 1986). Consequently, parental attitude – whether positive or negative – significantly shapes parental behaviors toward their children (Zimbardo, Gerrig, 2018), leading to specific behavioral strategies such as approval, praise, protection, avoidance, or neglect (Aronson, 2012). The typology proposed by Plopa (2008) and forming the basis of *The Parental Attitudes Scale* (SPR) includes six parental attitudes: acceptance-rejection (perceiving vs. rejecting the child's needs), excessive demandingness (lack of understanding of the child's need for autonomy), autonomy (supporting and accepting the child's needs), inconsistency (variable parental behavior), and excessive protectiveness (parental anxiety related to the child's independence). The SPR was developed to assess parental attitudes, which are crucial for diagnosing family system quality.

Parental attitudes can influence a parent's subjective perception of their child's screen use and their evaluation of it as positive or negative.

2. Benefits and risks of screen devices use

Numerous studies have examined screen device use among children in early school age, revealing both objective opportunities and risks across various domains of development: language, physical, cognitive and socio-emotional. High-quality content and age-appropriate programs and activities on screens can enhance children's skills in several areas, including prosocial behavior, satisfying their need for social belonging, facilitating learning, nurturing interests, boosting technological proficiency, stimulating curiosity, fostering independence, and enabling multitasking (Klichowski, Pyżalski, Kuszak, Klichowska, 2017).

However, negative effects also exist. Neuroimaging studies indicate that video game playing may impact the delayed development of brain microstruc-

tures responsible for verbal intelligence (Kardaras, 2018). Intense and stimulating visual content emitted by screens can lead to concentration difficulties and even hallucinations (Kardaras, 2018). Screens may hinder communication, abstract thinking, impair memory, and disrupt attention, ultimately affecting academic performance (Spitzer, 2013). Additionally, screen use can contribute to technological addictions (Krzyżak-Szymańska, 2018). Online trends, such as challenges, offer social opportunities but can also pose risks to children and adolescents – for instance, the “blackout challenge”, which involves self-asphyxiation until loss of consciousness (Fijałkowska, 2021).

Whether a screen activity is constructive or destructive depends on a child's behavior, media literacy, and the support provided by adults (Klichowski et al., 2017). Furthermore, parental attitudes toward internet activities correlate with the behaviors exhibited by children and adolescents (Lenhart, Arafeh, Smith, Macgill, 2008; Mróz, Solecki, 2017). Thus, the subjective assessment of benefits and risks may depend on the parental attitude toward their child, which would influence the attitude toward the child's use of screen devices. For instance, emphasizing risks in the case of overly protective parenting, which can impact specific online behaviors by children.

3. Parental attitudes toward screen devices use

Currently, the literature is rich in research on the relationships between children, adolescents, and screen device use, as well as the associated risks and parental knowledge on this topic. However, there is relatively less data available regarding the connection between parents' attitudes toward their children and children's screen devices use. Although over half of parents believe that the benefits outweigh the risks associated with their children's media use, this percentage has been gradually declining (from 55-66% in 2016 to 47-58% in 2017; Ofcom, 2017). Research indicates that parents feel responsible for their children's online safety and express concerns about internet-related risks such as addiction and exposure to dangerous content or individuals (Ptaszek,

Stunża, Pyżalski, Dębski, Bigaj, 2020). Furthermore, mothers and fathers differ in their views on children's screen device use. A study conducted in the United Kingdom found that fathers perceived more benefits in their children's use of screen devices and held more positive attitude toward new technologies (67%) compared to mothers (54%) (Internet Matters, 2022).

Studies emphasize the crucial role parents play in shaping healthy screen habits for their children (Uhls, 2016; Wojtasik, Dziemidowicz, 2019). These conclusions indicate the significant role of parents in educating themselves about screen usage and in active participation in their children's media lives (Tosun, Mihci, 2020). It is essential for parents to be aware of both the benefits and risks, monitor their child's online activities (especially for younger children), and engage in conversations about safe online behavior and internet trends (Fijałkowska, 2021). Knowledge and effective communication skills are key, but parental attitudes toward their children and screen device use may prove equally significant.

Even before formal education begins, children often become proficient users of computers, consoles, and phones (Dębski, Bigaj, 2019). Research by the Office of Electronic Communications (2021) revealed that children as young as 7-8 years old commonly start using mobile phones and smartphones, which are considered the most threatening screen devices due to their frequent use (Pyżalski, Zdrodowska, Tomczyk, Abramczuk, 2019). Given the increasingly early exposure to screens among children, research on screen use during late childhood from the perspective of parents becomes particularly relevant.

4. Methods

The aim of own research was to establish the relationship between parental attitudes and the assessment of benefits and risks associated with screen devices use by children in early school age. Each parent exhibits an attitude that determines their response to a child's behavior, which potentially also implies an influence on the domain related to children's screen device use.

Within the specified research problem, a hypothesis and two research questions were formulated:

Hypothesis 1. Parent's gender is related to the assessment of benefits and risks associated with children's screen devices use.

Due to the lack of research on the relationship between parental attitudes and the assessment of benefits and risks associated with their children's screen devices use, the following research questions were posed:

Question 1. Does the type of maternal parenting attitude relate to the assessment of benefits and risks associated with children's screen devices use?

Question 2. Does the type of paternal parenting attitude relate to the assessment of benefits and risks associated with children's screen devices use?

In the study, two research tools were used:

1. *The Parental Attitudes Scale* (SPR) by Mieczysław Plopa (2008) consists of 50 statements to which parents respond on a 5-point Likert scale. The questionnaire identifies six types of parenting behaviors: acceptance-rejection, autonomy, excessive demandingness, inconsistency, and excessive protectiveness. The SPR demonstrates high reliability for both mothers and fathers (Cronbach's alpha ranging from 0.75 to 0.88). The theoretical validity was confirmed through factor analysis and correlations with other questionnaires.
2. *Original Screen Use Questionnaire* (KKE) designed to measure attitudes toward screen devices used by children, this questionnaire comprises 18 statements. Participants rated the benefits and risks of their children's screen devices use on a 5-point Likert scale. Three types of assessments were distinguished: positive (emphasizing benefits), neutral (similar number of benefits and risks), and negative (highlighting risks). The KKE exhibits very good psychometric properties (reliability with Cronbach's alpha = 0.91). To establish the internal structure of the scale, an exploratory factor analysis using the maximum likelihood method was conducted. Based on the scree plot criterion, two factors (benefits and risks) were revealed. Both factors explain 59% of the total variance in the results (KMO = 0.92).

5. Characteristics of participants

The study was conducted between September 2022 and March 2023. In the initial data collection phase, a paper-based method was used during meetings with parents in small schools in the Podkarpackie Voivodeship. Since the number of participants obtained through this method was small and predominantly consisted of mothers, an online survey was subsequently sent to the directors of four primary schools in Podkarpacie. These directors distributed the survey questionnaire to parents of children in grades 1-3 via the electronic school diary. The study group consisted of parents (127 mothers and 46 fathers) with children aged 7-10 years. A total of 173 individuals (aged 29-44 years, $M = 36.56$, $SD = 3.16$, $Me = 37$) completed the survey. The youngest mother was 29 years old, while the oldest was 44 years old ($M = 36.08$, $SD = 3.26$, $Me = 36$). Among the fathers, the youngest was 33 years old, and the oldest was 44 years old ($M = 37.91$, $SD = 2.46$, $Me = 37.5$). Their children attended

either grade “0” (children with deferred compulsory schooling – 1% of participants) or grades 1-3 (grade 1 – 31% of participants, grade 2 – 39%, grade 3 – 29%).

6. Results

For statistical analysis, the IBM SPSS package was utilized. Using this software, were conducted analyses of basic descriptive statistics, the Shapiro-Wilk test, the Mann-Whitney U test for independent samples, the Student’s t -test for independent samples, the Welch’s t -test, Spearman’s rank correlation coefficient, and Pearson correlation coefficient. The significance level was set at $\alpha = 0.05$. However, results with probabilities in the range of $0.05 < p < 0.1$ were interpreted as statistically significant at the level of trend.

In the initial step, basic descriptive statistics for the quantitative variables were calculated, along with the Shapiro-Wilk test to assess the normality

Table 1. Descriptive statistics for parental attitudes (N = 173)

| | <i>M</i> | <i>Me</i> | <i>SD</i> | <i>Sk.</i> | <i>Kurt.</i> | <i>Min</i> | <i>Max</i> | <i>S-W</i> | <i>p</i> |
|---|----------|-----------|-----------|------------|--------------|------------|------------|------------|----------|
| Mother’s acceptance-rejection attitude | 45.72 | 47.00 | 4.60 | -3.75 | 24.91 | 11.00 | 50.00 | 0.85 | 0.001 |
| Mother’s autonomy attitude | 34.94 | 35.00 | 3.74 | -0.94 | 2.48 | 18.00 | 43.00 | 0.98 | 0.603 |
| Mother’s protectiveness attitude | 25.49 | 24.00 | 8.62 | 0.49 | -0.34 | 10.00 | 48.00 | 0.95 | 0.050 |
| Mother’s demandingness attitude | 26.08 | 25.00 | 8.01 | 0.18 | -0.76 | 11.00 | 45.00 | 0.98 | 0.622 |
| Mother’s inconsistency attitude | 21.24 | 19.00 | 9.00 | 0.87 | 0.02 | 10.00 | 47.00 | 0.89 | 0.000 |
| Mother’s attitude toward child’s screen use | 41.69 | 42.00 | 10.25 | 0.44 | 1.08 | 19.00 | 78.00 | 0.96 | 0.075 |
| Father’s acceptance-rejection attitude | 42.04 | 42.00 | 4.59 | -0.45 | -0.10 | 31.00 | 50.00 | 0.97 | 0.275 |
| Father’s autonomy attitude | 37.43 | 38.00 | 3.31 | 0.44 | 0.14 | 31.00 | 46.00 | 0.97 | 0.307 |
| Father’s protectiveness attitude | 23.98 | 23.00 | 7.09 | 0.22 | -0.74 | 11.00 | 40.00 | 0.97 | 0.279 |
| Father’s demandingness attitude | 30.26 | 31.00 | 7.18 | 0.00 | 0.39 | 15.00 | 49.00 | 0.97 | 0.353 |
| Father’s inconsistency attitude | 25.41 | 25.00 | 8.64 | 0.06 | -0.46 | 11.00 | 46.00 | 0.97 | 0.222 |
| Father’s attitude toward child’s screen use | 67.17 | 69.50 | 12.79 | -0.38 | -0.50 | 38.00 | 90.00 | 0.97 | 0.412 |

M – mean; *Me* – median; *SD* – standard deviation; *Sk.* – skewness; *Kurt.* – kurtosis; *Min* and *Max* – minimum and maximum values of the distribution; *S-W* – result of the Shapiro-Wilk test; *p* – statistical significance

Table 2. Differences in parental attitudes between groups of mothers assessing children’s screen devices use neutrally and negatively (N = 127)

| | Negative maternal assessment of child’s screen devices use (n=59) | | Neutral maternal assessment of child’s screen devices use (n=68) | | t(125) | p | 95% CI | |
|--|---|-------|--|-------|--------|-------|--------|------|
| | M | SD | M | SD | | | LL | UL |
| Mother’s acceptance-rejection attitude | 45.95 | 5.513 | 45.53 | 3.667 | 0.511 | 0.610 | -1.21 | 2.05 |
| Mother’s autonomy attitude | 34.59 | 4.328 | 35.24 | 3.153 | -0.964 | 0.337 | -1.96 | 0.68 |
| Mother’s protectiveness attitude | 26.68 | 9.066 | 24.46 | 8.145 | 1.455 | 0.148 | -0.80 | 5.24 |
| Mother’s demandingness attitude | 27.08 | 8.512 | 25.21 | 7.508 | 1.322 | 0.189 | -0.93 | 4.69 |
| Mother’s inconsistency attitude | 21.63 | 9.791 | 20.91 | 8.305 | 0.446 | 0.657 | -2.46 | 3.89 |

M – mean; SD – standard deviation; t – Student’s t-test result; p – statistical significance; CI – confidence interval; LL – lower limit; UL – upper limit

of their distributions (Table 1). For most of the variables, a distribution consistent with normality was observed, as indicated by the statistically non-significant results of the Shapiro-Wilk test. For variables where the test result was statistically significant, there were additionally verified the skewness values of their distributions. If the skewness fell within the range of +/- 2, it was assumed that the distribution of the variable was not significantly asymmetric relative to the mean. Such skewness values were observed for most of the variables. In conclusion, it was decided that parametric analyses would be conducted if the remaining assumptions were met.

To verify hypothesis H1, an analysis was conducted using the Welch’s t-test due to the lack of homogeneity of variance. The result of the Welch’s test $t(67.00) = -12.173; p > 0.001$ was statistically significant.

In summary, based on the collected results, it can be concluded that fathers (M = 67.17; SD = 12.79) assess children’s screen use more positively than mothers (M = 41.69; SD = 10.25) (Figure 1). The analysis supports the acceptance of the hypothesis H1.

In the subsequent part of the study, it was examined whether mothers who neutrally assessed their children’s screen use differ in parental attitudes from mothers who evaluated it negatively. In the sample of participants, no mother assessed children’s screen use positively.

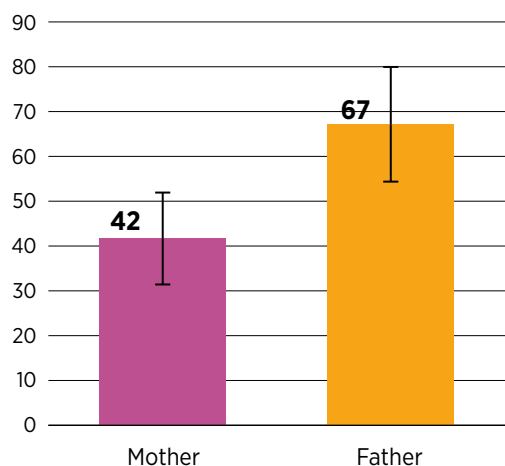


Figure 1. Differences between mothers and fathers in assessing the benefits and risks of children’s screen devices use (N = 173)

Table 3. The relationship between maternal parenting attitudes and the assessment of benefits and risks of children’s screen devices use (N = 127)

| Maternal parenting attitude | Negative and neutral maternal assessment of child’s screen devices use |
|--|--|
| Mother’s acceptance-rejection attitude | -0.086 |
| Mother’s autonomy attitude | 0.057 |
| Mother’s protectiveness attitude | -0.016 |
| Mother’s demandingness attitude | -0.030 |
| Mother’s inconsistency attitude | -0.022 |

The table presents Spearman’s rank correlation (rho) values.

** . Correlation significant at the 0.01 level (2-tailed).

* . Correlation significant at the 0.05 level (2-tailed)

Table 4. Differences in parental attitudes between groups of fathers assessing children's screen devices use neutrally and positively (N = 127)

| | Neutral paternal assessment of child's screen devices use (n=38) | | Positive paternal assessment of child's screen devices use (n=7) | | U Mann-Whitney | p |
|--|--|-------|--|--------|----------------|-------|
| | M | SD | M | SD | | |
| Father's acceptance-rejection attitude | 42.18 | 4.753 | 41.43 | 4.237 | 118.50 | 0.649 |
| Father's autonomy attitude | 37.61 | 3.276 | 35.86 | 3.078 | 80.00 | 0.095 |
| Father's protectiveness attitude | 24.50 | 7.329 | 21.43 | 5.996 | 105.00 | 0.380 |
| Father's demandingness attitude | 30.03 | 6.764 | 31.00 | 10.033 | 131.00 | 0.950 |
| Father's inconsistency attitude | 25.39 | 8.726 | 24.43 | 8.942 | 132.00 | 0.975 |

The results of the analysis indicated no statistically significant differences between the mothers who negatively or neutrally evaluated their children's screen use and their parenting attitudes (Table 2).

To address research question P1, a Spearman's rank correlation analysis was conducted. The results from mothers who assessed their children's screen use negatively and neutrally (there were no positive responses) were combined due to the lack of statistically significant differences between these groups regarding the presented parenting attitudes.

The results of the analysis indicated no statistically significant relationship between maternal parenting attitudes and the assessment of benefits and risks of screen devices use by their children (Table 3).

Subsequently, it was verified whether fathers who neutrally evaluate their children's screen use differ in terms of parenting attitudes from fathers who assess this use positively. In the sample of participants, no father evaluated screen use negatively. To explore this, the Mann-Whitney U test for independent samples was conducted.

The results of the analysis revealed no statistically significant differences between fathers who assessed their children's screen use neutrally and fathers who evaluated it positively (Table 4).

In the subsequent part of the study, answers to research question P2 were sought. For this purpose, a Pearson correlation analysis was conducted. The results from fathers who assessed their children's screen use positively and neutrally (there were no negative

responses) were analyzed together due to the lack of statistically significant differences between these groups regarding the presented parenting attitudes.

The results of the analysis showed no statistically significant relationship between the type of parental attitude of fathers and the assessment of the benefits and risks of screen devices use by their children (Table 5).

7. Discussion

Numerous studies indicate that an increasing number of children spend most of their time online. Therefore, adult involvement is crucial to guide them

Table 5. The relationship between paternal parenting attitudes and the assessment of benefits and risks of children's screen devices use (N = 46)

| Paternal parenting attitude | Positive and neutral paternal assessment of child's screen devices use |
|--|--|
| Father's acceptance-rejection attitude | -0.085 |
| Father's autonomy attitude | -0.247 |
| Father's protectiveness attitude | -0.056 |
| Father's demandingness attitude | 0.035 |
| Father's inconsistency attitude | 0.020 |

The table presents Pearson correlation coefficient (r) values.

** . Correlation significant at the 0.01 level (2-tailed).

* . Correlation significant at the 0.05 level (2-tailed).

safely through the digital world and screen usage. Children in the younger school age require strong parental support, making it essential to determine how to empower parents in these efforts. Previous research on parental attitudes toward screen use has identified two types of parents: highly controlling, active guides, and parents who do not interfere with their children's screen devices use (Uhls, 2016). These attitudes can be compared to parenting behaviors in everyday life. To understand the essence of this phenomenon, an analysis of the data obtained from a survey was conducted. This analysis served as the basis for finding answers to the research questions.

H1. Parent's gender is related to the assessment of benefits and risks associated with children's screen devices use.

The results of statistical analysis confirmed Hypothesis 1, showing differences between mothers and fathers in their assessment of benefits and risks. Mothers typically evaluate their children's screen devices use neutrally or negatively, while fathers tend to assess it neutrally or positively. These findings align with the report "Children's wellbeing in a digital world" by Internet Matters (2022). Additionally, there is a common belief that women dislike screen entertainment (Weiser, 2000). However, research by Game Story (Brief, 2020) reveals that 47% of a 17-million-player group consists of women. As they become mothers, their evaluation of electronic media usage changes. Nevertheless, this positive assessment does not extend to their children's screen use. This discrepancy may be related to women's heightened awareness of risks and their vigilance in protecting their children. Further research is needed to explore this issue.

The practical implication drawn from these analyses is to tailor different educational interventions toward fathers and mothers. Fathers should be equipped with knowledge about the negative effects of screen use. Mothers, on the other hand, should reflect on the benefits of screen devices use for children, such as fostering passions, interests, and peer relationships. Proper parental perception regarding screen devices use benefits supports children's cognitive development and autonomy (Przybyła-Basista, Kołodziej, 2018).

Both sides should also receive education on preventive measures and wise introduction of children to the multimedia world.

Question 1. Does the type of maternal parenting attitude relate to the assessment of benefits and risks associated with children's screen devices use?

Question 2. Does the type of paternal parenting attitude relate to the assessment of benefits and risks associated with children's screen devices use?

Research has shown no correlation between parental attitudes and their assessment of the risks and benefits of screen devices use by children. This finding can be interpreted in two ways. First, screen devices in the hands of children are still a relatively new experience for many parents, and their approach toward screens may not have been fully integrated into their parental attitude and resulting actions. Simultaneously, in many families, screen devices function as a constant element of daily life, and parents may perceive children's screen use as not requiring specific parenting interventions. However, this can raise concerns because without parental control, children may be exposed to potentially harmful experiences (Symons, Ponnet, Emmery, Walrave, Heirman, 2017). Underestimating the risks associated with screen device use is linked, according to Byrne and colleagues (2014), to an overly permissive parenting style characterized by acceptance attitude without setting expectations or requirements, as well as communication difficulties with the child. Research conducted in Poland reveals that over 10% of students cannot rely on parental assistance when something concerning occurs during screen devices use. Factors facilitating parental support for e-children include family context: communication, emotional climate, a sense of closeness, and parental attitudes toward screens (Dębski, Bigaj, 2019).

Secondly, parents' attitudes toward children's screen use may be related to a lack of comprehensive knowledge about this type of activity, and their approach to screens may not align with their parental attitudes. For instance, a negative assessment by a parent who presents an autonomy attitude might result from an emotional reaction to the phenome-

non, influenced by social campaigns targeting digital parents, rather than conscious reflection. Conversely, a parent with excessive protectiveness attitude toward his child may not include new media on the list of threats due to insufficient knowledge about them, resulting in screen devices use not becoming a target for the monitoring behaviors, which are associated with this parental attitude. Research confirms that parents of younger school-age children typically do not engage in spontaneous reflection regarding the benefits and risks of screen devices use for this age group (Valcke, Bonte, De Wever, Rots, 2010).

Currently, parents belonging to the generation of digital immigrants may feel uncertain in the world of screen devices, making it challenging for them to guide their children. Mothers' and fathers' knowledge about children's screen activities varies, as do their approaches to introducing children to the multimedia world. Psychologists play a crucial role in supporting parents in this new and demanding parenting task. A key takeaway from the study results is the importance of conducting a comprehensive educational campaign for parents, presenting both the benefits and risks associated with screen devices use for younger children in a clear and factual manner.

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A smartphone that cannot be abandoned, or the phenomenon of nomophobia among students¹

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“...Do not set your heart on that which will not satiate your heart”.

(*Apophthegms of the Desert Fathers* 2007, p. 392)

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Abstract: Digital technologies are widespread and common in modern life and are a fundamental form of human communication. The smartphone, a small device that can easily fit in a pocket, makes it possible to meet many of our daily needs. Although a smartphone makes people's lives easier, it also often becomes a source of anxiety, which in the long term can negatively affect psychological well-being. There can also be other consequences of nomophobia, for example, excessive attachment to the smartphone can become the cause of a systematic reduction of the real presence of other people in our lives. In this way, communication and dialogue with another person are disrupted and may even cease to exist at all. The purpose of the research was to identify the phenomenon of nomophobia among students. Differences were sought in the severity of nomophobia by gender, type of sport practised (individual versus team), taking up or not taking up professional activity, and correlations between the individual dimensions of nomophobia. A total of 102 students at the Józef Piłsudski University of Physical Education in Warsaw studying Sport participated in the study, including 23 women and 79 men. The average age of the students was 19.3 years. There were 85 people in the study group who practise sports. The average training experience was 8.5 years. *The Nomophobia Questionnaire* (NMP-Q) (Yildirim, Correia, 2015) was used to collect empirical data. Gender differences were observed in terms of the overall nomophobia rate and one of its dimensions which is *the inability to communicate*. Significantly higher scores were obtained by the female students surveyed. Factors that do not differentiate the severity of nomophobia among the students surveyed are the type of sport played (individual versus team) and taking up or not taking up a job. There are positive correlations between the individual dimensions of nomophobia.

Keywords: anxiety, nomophobia, smartphone, sports, students.

Introduction

Human functioning in reality is reflected, among other things, in emotional processes. An emotion is defined as a subjective mental state of a person that sets in motion a specific program of actions. This is accompanied by somatic changes, facial expressions, pantomimic expressions and various

behaviors (Maruszewski, Dolinski, Lukaszewski, Marszał-Wiśniewska, 2015). Anxiety is also a natural part of the wide range of diverse emotions.

S. Siek says that “Modern psychologists and physiologists dealing with anxiety distinguish more than eight hundred different reactions considered to be

¹ Article in polish language: https://www.stowarzyszeniefidesetratio.pl/fer/58P_Kuk.pdf

anxiety or anxiety-supportive” (Siek, 1999, p. 127). One example of modern anxiety is nomophobia. This very issue is the subject of the present study.

Nomophobia is a specific smartphone-related anxiety. It is a type of separation anxiety that concerns the tension associated with the possible lack of access to a smartphone. It manifests itself as a phobia of not being able to communicate with others, loss of connection, lack of access to information, and fear of having to give up convenience (Yildirim, Correia, 2015). The plague of modern times, which has to do with excessive attachment to the smartphone, was written about already in 2008 (Daily Mail Online, 2008). A survey of Britons showed that more than 13 million people feared losing their phone. The main reason cited by the respondents was the need to keep in touch with friends and family. More than one in two people said they never turned off their phones.

Nomophobia is a problem that not everyone seems to be aware of. Numerous scientific studies point to its consequences observed in adolescents. An interesting systematic review of studies on the topic was made by W. Notara, E. Vagka, Ch. Gnardellis, A. Lagiou (2021). The authors concluded that the use of a smartphone leads in a simple way to health disorders, and this is true both in the physical, mental and social spheres (Notara et al., 2021).

The smartphone, a device that gives a person unlimited access to the Internet at almost any time, is becoming for many people, including the young or even the very young, a device they cannot function or be without. For this reason, among others, it is used almost everywhere—in a school or college corridor, in a lecture hall, in a park, at a family celebration, at the table where a meal is eaten, literally everywhere we see people staring at the phone screen, focused on following some content or performing various activities with it. Even the youngest “one- or two-year-old children – can sit for hours politely staring at the screen as if it were an electronic babysitter” (Białecka, Gil, 2022, p. 3).

As E. Zmuda (2021) notes, the smartphone replaces many other devices that we may no longer need. These include, for example, an alarm clock, a camera, a camcorder, a calendar, an encyclopedia, a textbook, a traditional dictionary, a map, a bank, a store, a landline, or an mp3 player.

As W.M. Czernski (2022) writes, new technologies are the hallmark of our times. Smartphones accompany people, especially the young ones, practically always and everywhere. The intensity of the use of modern digital devices has been reinforced by the pandemic. This switch to increased remote work and learning has not been without consequences for physical and mental health.

In a world that has been dominated and captured by digital technologies, we are compelled and obliged to protect ourselves and our children from the potential dangers that come from using them in an unlimited and uncontrolled way. What seems to be a problem now is the low level of digital hygiene of teenagers and young adults.

Today’s young adults are people who were born at the beginning of the 21st century. At the same time, they are those who grew up in a reality mastered by the access to and use of digital technologies, and thus the constant expansion of their influence on the lives of modern people. They are unfamiliar with the world before the era of computers, laptops, smartphones, the Internet, etc., and were given access to these devices and, with their help, to various digital content at an early and sometimes very early age. However, this phenomenon, so characteristic of our times and so widespread, can be evaluated differently. On the one hand, as a necessary and indispensable practice, bringing many cognitive and educational benefits but, on the other hand, as a threat to the widely understood health and even life of the young, often inexperienced and trusting, without the ability to rationally assess the danger. Today, “the virtual world has so far taken over our daily lives that we have stopped imagining life without texting, shopping online, cooking from a recipe on a smartphone screen, or checking the fastest route to get to a destination” (Białecka, Gil, 2022, p. 2). This virtual world certainly opens up a lot of possibilities for people, opens up to new perspectives, but it is also a real and very serious threat on many levels. The world quickly and imperceptibly draws in and fills the real space of life, which slowly and gradually ceases to be just real and becomes virtual.

The results of a review study on the consequences of nomophobia in adolescents compiled by R.G. Pérez Cabrejos, D.B. Rodríguez Galán, N.T. Colquepisco Paúcar, R.L. Enríquez Ludeña (2021) showed that excessive mobile phone use negatively affects academic performance and causes behavioral problems. In addition, depression and anxiety, as well as poor nutrition, were found to be linked to nomophobia. The researchers signal the need for immediate intervention in homes, schools and wider society.

Similarly, a study by Lebanese researchers found that nomophobia is linked to psychological conditions. Higher levels of anxiety and insomnia correlated with the likelihood of more severe nomophobia (Farchakh, Hallit, Akel, Chalhoub, Hachem, Hallit, Obeid, 2021).

Xurong Lu, Tour Liu, Xiaorui Liu, Haibo Yang, Jon D Elhai (2022) proved that loneliness, social avoidance and eccentricity are predictors of nomophobia.

P. Pajor (2021) referring to the analysis of a number of scientific papers concludes that excessive smartphone use can be similar to addiction in terms of trouble with impulse control or consequences, but it is not the same as addiction. According to the Moroccan researchers, nomophobia is a type of phobia that develops into an addiction. Today's widespread use of social networks and easy access to them, which requires the use of a smartphone, is a factor that significantly promotes nomophobia (Louragli, Ahami, Khadmaoui, Mammad, Lamrani, 2018). M.W. Czerski (2018) believes that the inclusion of nomophobia on the list of addictions is only a matter of time.

Nowadays, in literature we find terms that seem to be closely related to the phenomenon of nomophobia. This is, for example, phonoholism (FOMO), a smartphone addiction which manifests itself as a compulsive use of the phone. It is a situation when it becomes impossible to function normally without a phone or imagine a situation when you could leave your phone somewhere and not feel it constantly at hand. The phone is switched on 24 hours a day and lies very close to the owner, even while sleeping. On the other

hand, not being able to answer a call, or leaving the phone in a place one does not have access to it, causes irritation, annoyance and tension that cannot be controlled (Witkowska, 2019).

The family, as the community in which the process of raising a child from the beginning of their life takes place, is the environment that is forced to face the challenge of using digital technologies by children and adolescents in a skillful and therefore non-health threatening way. Real relationships within the family, rather than virtual ones, provide an opportunity to learn to care for each other, build closeness and bonding, learn empathy, develop dialogue and listen to each other's needs (Derbich, 2011; Derbich, 2017). Such close relationships are a chance to "save the child" from what may threaten them if they go too deeply and uncontrollably into the world of digital technologies and their use. Closeness and reciprocity, the real presence of family members—parents and children—in the community, is a guarantee for the development of the need to be with each other, not side by side with a smartphone in hand. Sometimes it can also be the case that parents have some anxiety about how to raise a child to use modern technological advances. "Parents, seeing their children overuse digital technologies, on the one hand try to impose some restrictions, but on the other hand have concerns that they are limiting their freedom and are ultimately not convinced themselves what they should do" (Dziewit, Jaworowska–Duchlinska, 2023, p. 104). This may be a difficult, but important resolution, which becomes a challenge for modern parents responsible for the valuable and safe upbringing of their own children.

Sports and any other forms of physical activity can be a significant factor in preventing addictions, including various types of phobia like, for example, nomophobia. Exercises trigger the release of endorphins in the body, the so-called "happy hormones," and thus naturally improve mood and induce a sense of well-being. Engaging young adults in sports can, therefore, greatly support and protect them from the dangers of modern civilization. Nomophobia, as the results of many studies show, is such a real danger.

1. Research Methodology

The purpose of the study was to explore the phenomenon of nomophobia among first year university students studying Sport at the Józef Pilsudski Academy of Physical Education in Warsaw.

The following research questions were formulated:

1. Is there observed the phenomenon of nomophobia among the surveyed students, and, if so, what is its severity?
2. Are there any differences in the various dimensions of nomophobia in terms of the respondents' gender?
3. Are there any differences in nomophobia in terms of the discipline practiced (individual/team)?
4. Are there any differences in nomophobia among the students surveyed in terms of taking up or not taking up the coaching job?
5. What correlations are observed within each dimension of nomophobia?

The study was conducted in December 2022 and January 2023. A total of 102 people, including 23 women and 79 men, first-year, first-degree students of Sport at the Józef Pilsudski University of Physical Education in Warsaw, were surveyed.

Only those who gave their consent took part in the study. The participants were assured anonymity, security of data collection and storage. The study was diagnostic in nature. At that time, the number of students in the surveyed year (2022/2023) was 135, which proves that the vast majority of them agreed to participate in the study (75.5%).

Table 1 shows the characteristics of those who participated in the study.

The average age of the female subjects was 19.1 ± 1.1 , and the average age of the male subjects was 19.5 ± 1.2 . The average training seniority of the female subjects amounted to 8.1 ± 2.5 , and that of the male subjects equaled 8.9 ± 3.8 . The average age of the student subjects was 19.4 ± 1.2 years, and the average training seniority was 8.7 ± 3.5 years.

Of the students surveyed, 85 (83%) declared active engagement in sports, including 32 students practicing individual sports and 53 team sports.

Table 1. Characteristics of study subjects by age and training experience

| | n | mean \pm SD | 95% PU medium | range (min \div min) |
|--------------------|----|----------------|------------------|------------------------|
| Women | | | | |
| age | 23 | 19.1 \pm 1.1 | 18.7 \div 19.6 | 18 \div 23 |
| training seniority | 20 | 8.1 \pm 2.5 | 6.9 \div 9.2 | 4 \div 14 |
| Men | | | | |
| age | 79 | 19.5 \pm 1.2 | 19.3 \div 19.8 | 17 \div 23 |
| training seniority | 65 | 8.9 \pm 3.8 | 7.9 \div 9.9 | 1.5 \div 15 |

Statistica 13 program was used to perform statistical analysis. Analysis of the results was presented by gender, type of sport practiced and performance of the coach's work. The Shapiro-Wilk test was used to check the normality of the distribution of the variables studied. A two-factor analysis of variance ANOVA (group x factor) was used to analyze the results. The frequencies of AWF students in terms of nomophobia were compared using the χ^2 test. The relationship between nomophobia factors was determined using the r-Pearson correlation coefficient. A level of $p < 0.05$ was considered statistically significant.

The Nomophobia Questionnaire (NMP-Q), a tool to measure nomophobia (Yildirim, Correia, 2015), was used in the study. The test consists of 20 items and measures the level of phobia severity regarding the smartphone use. The respondents rated each statement by relating it to a 7-point Likert scale, where 1 means "strongly disagree" and 7 means "strongly agree". The Polish adaptation and validation of the questionnaire was conducted by M.W. Czerski (2021). The Polish version has good psychometric properties, reliability indices are high, which confirms the correct construction of the tool. Confirmatory factor analysis (CFA) was used to determine the theoretical relevance of the questionnaire, which showed a good fit to the data and confirmed the four-factor structure of the questionnaire. The dimensions of nomophobia studied using the NMP-Q questionnaire consisted of: (1) Inability to communicate—the feeling of losing the ability to communicate instantly with others; (2) Loss of connection- refers

to the feeling of losing the ubiquitous connection enabled by smartphones; (3) Lack of access to information – refers to the feeling of discomfort that is associated with the loss of access to information via smartphones; (4) Giving up convenience–refers to the feeling of giving up the convenience provided by smartphones (Czerski, 2021, 2022). NMP-Q results were used to classify the respondents. Those with the score of 20 were considered not to show nomophobia. Mild nomophobia was defined by a score of 21-59, moderate nomophobia by a score of 60-99 and high nomophobia by a score of ≥ 100 (relative to the maximum score, which is 140) (Cain, Malcom, 2019).

2. Study Findings

2.1. Nomophobia among female and male students surveyed

Based on a two-factor ANOVA (gender x factor) analysis of variance, differences in nomophobia between female and male AWF students were examined (Table 2.). The analysis found differences between

men and women in factors indicative of nomophobia ($F_{1,100} = 3.93$; $p = 0.046$; $\eta^2 = 0.062$), noting that women had significantly higher values for the factor related to the *inability to communicate* compared to men ($p = 0.002$), while female and male students obtained similar values in the other three factors: *loss of connection* ($p = 0.87$); *lack of access to information* ($p = 0.10$); *giving up convenience* ($p = 0.17$). There was also observed a significant large effect of difference between the dimensions of nomophobia ($F_{3,300} = 84.72$; $p < 0.001$; $\eta^2 = 0.46$). On the basis of post hoc analysis, significant differences were found between factors I and II ($p < 0.001$) and IV. ($p < 0.001$); factor I was significantly higher than factors II and IV. The lowest values in both male and female groups were obtained by factor II (*loss of connection*), which differed significantly from the other factors ($p < 0.001$). In addition, significant differences were observed between factors III and IV ($p < 0.001$), where higher values were recorded for factor III. Also, a significant gender x factor interaction effect was noted ($F_{3,300} = 4.00$; $p = 0.008$; $\eta^2 = 0.04$). In the group of female students, a greater difference was noted between factors I and II than in the male group.

Table 2. Differences in the dimensions of nomophobia among respondents by gender

| Nomophobia | sex | mean \pm SD | 95% PU medium | range (min \div min) | t | p | ES |
|------------------------------------|------------|----------------|------------------|------------------------|------|-------|------|
| I. Inability to communicate | F (n = 23) | 30.6 \pm 6.7 | 27.7 \div 33.5 | 14 \div 40 | 3.15 | 0.002 | 0.75 |
| | M (n = 79) | 24.8 \pm 8.0 | 23.0 \div 26.6 | 8 \div 42 | | | |
| II. Loss of connection | F (n = 23) | 12.7 \pm 5.9 | 10.1 \div 15.2 | 5 \div 26 | 0.16 | 0.87 | 0.04 |
| | M (n = 79) | 12.9 \pm 6.0 | 11.5 \div 14.2 | 5 \div 29 | | | |
| III. Lack of access to information | F (n = 23) | 18.2 \pm 5.7 | 15.7 \div 20.6 | 8 \div 28 | 1.66 | 0.10 | 0.39 |
| | M (n = 79) | 16.1 \pm 5.3 | 14.9 \div 17.3 | 4 \div 28 | | | |
| IV. Giving up convenience | F (n = 23) | 16.5 \pm 4.9 | 14.4 \div 18.6 | 9 \div 28 | 1.37 | 0.17 | 0.33 |
| | M (n = 79) | 14.9 \pm 5.0 | 13.8 \div 16.0 | 5 \div 28 | | | |

Table 3. Differences in overall nomophobia score among respondents by gender

| | sex | mean \pm SD | 95% PU medium | range (min \div min) | t | p | ES |
|------------|------------|-----------------|------------------|------------------------|------|------|------|
| Nomophobia | F (n = 23) | 77.9 \pm 19.1 | 69.7 \div 86.2 | 43 \div 120 | 2.08 | 0.04 | 0.49 |
| | M (n = 79) | 68.7 \pm 18.6 | 64.5 \div 72.8 | 24 \div 109 | | | |

Table 2 presents the results on gender differences in the dimensions of nomophobia in the surveyed students.

Table 3. illustrates the differences in the overall nomophobia score of the male and female respondents.

Analyzing the sum of scores on the NMP-Q, it was found that the female students had a significantly higher nomophobia score compared to the male students ($p < 0.05$).

Figure 1. shows the percentage of cases in terms of nomophobia levels (low, moderate, high).

In contrast, analysis of the results showed no significant differences between the female and male students in the levels of nomophobia ($G = 3.72$; $p = 0.16$; $R = 0.19$). 33 subjects (32.4%) had low levels of nomophobia, 61 subjects (59.8%) moderate, and 8 subjects (7.8%) high levels of nomophobia. None of the people surveyed got a result in the test which would indicate the absence of nomophobia.

2.2. Nomophobia among the respondents involved in individual versus team sports

In the course of study results analysis, there were no differences found in the dimensions of nomophobia between the students training individual and team sports ($F_{1,83} = 0.91$; $p = 0.34$; $\eta^2 = 0.011$). However, there was noted a significant large effect of the difference between the dimensions indicative of nomophobia ($F_{3,249} = 75.61$; $p < 0.001$; $\eta^2 = 0.48$). On the basis of the post hoc analysis, significant differences were found between factors I and II

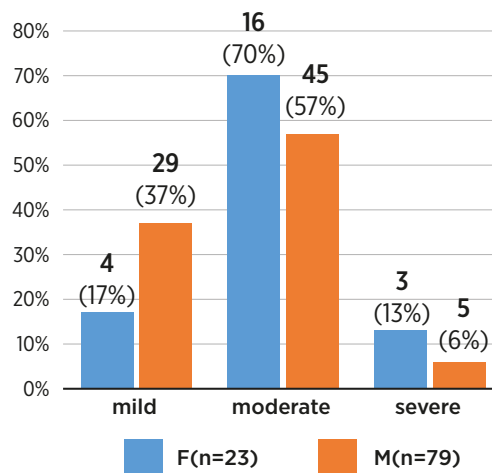


Figure 1. Level of nomophobia in female students (n = 23) and male students (n = 79).

($p < 0.001$) and IV ($p < 0.001$); factor I. was significantly higher than factors II and IV. The lowest values in the study group were obtained by factor II (*loss of connection*), which differed significantly from the other factors ($p < 0.001$). In addition, significant differences were observed between factors III and IV ($p < 0.001$), where higher values were recorded for factor III. The sport x factor interaction effect was not significant ($F_{3,249} = 1.31$; $p = 0.27$; $\eta^2 = 0.02$).

Table 4. presents the results of differences in the dimensions of nomophobia in the respondents by the type of sport played.

Differences in nomophobia (total score) in the subjects by the type of sport practiced are presented in Table 5.

Table 4. Differences in dimensions of nomophobia among respondents by type of sport played (I-individual; T-team)

| Nomophobia | Type of sport | M ±SD | 95% PU medium | range (min ÷ min) | t | p | ES |
|------------------------------------|---------------|----------|---------------|-------------------|------|------|------|
| I. Inability to communicate | I (n = 32) | 27.2±8.0 | 24.3÷30.0 | 8÷41 | 1.37 | 0.17 | 0.31 |
| | T (n = 53) | 24.7±7.8 | 22.6÷26.9 | 9÷39 | | | |
| II. Loss of connection | I (n = 32) | 12.8±6.0 | 10.6÷15.0 | 5÷25 | 0.37 | 0.71 | 0.08 |
| | T (n = 53) | 12.3±5.6 | 10.8÷13.8 | 5÷24 | | | |
| III. Lack of access to information | I (n = 32) | 17.2±6.8 | 14.8÷19.7 | 4÷28 | 1.34 | 0.18 | 0.30 |
| | T (n = 53) | 15.6±4.4 | 14.4÷16.8 | 6÷24 | | | |
| IV. Giving up convenience | I (n = 32) | 14.8±4.4 | 13.2÷16.4 | 6÷27 | 0.23 | 0.82 | 0.05 |
| | T (n = 53) | 15.0±5.3 | 13.6÷16.5 | 5÷28 | | | |

Table 5. Differences in nomophobia (total score) in subjects by type of sport played (I-individual; T-team)

| | SPORT | M ±SD | 95% PU medium | range (min ÷ min) | t | p | ES |
|------------|------------|-----------|---------------|-------------------|------|------|------|
| Nomophobia | I (n = 32) | 71.9±20.6 | 64.5÷79.3 | 24÷108 | 1.02 | 0.31 | 0.23 |
| | T (n = 53) | 67.7±17.3 | 62.9÷72.4 | 32÷105 | | | |

The level of nomophobia in the group of the surveyed students participating in individual and team sports is illustrated in Figure 2.

There were no significant differences in nomophobia found between the students training individual and team sports ($G = 0.83$; $p = 0.66$ $R = 0.10$).

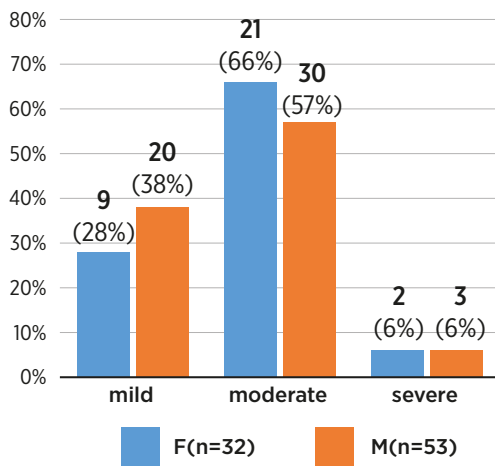


Figure 2: Level of nomophobia in a group of students engaged in individual sports (I; n = 32) and team sports (T; n = 53).

2.3. Nomophobia in the students working as coaches versus the non-working

The analysis found no differences in factors indicative of nomophobia between students working as coaches and those not working ($F_{1,100} = 0.008$; $p = 0.93$; $\eta^2 < 0.001$). In contrast, there was observed a significant large effect of difference between dimensions of nomophobia ($F_{3,300} = 72.27$; $p < 0.001$; $\eta^2 = 0.42$). On the basis of post hoc analysis, similarly to the gender breakdown, significant differences between factors I and II ($p < 0.001$) and IV ($p < 0.001$) were found. Factor I was significantly higher than factors II and IV. The lowest values in the group of AWF students were obtained by factor II. (*loss of connection*), while it differed significantly from the other factors ($p < 0.001$). In addition, significant differences were observed between factors III and IV ($p < 0.001$), where higher values were recorded for factor III. The interaction effect of factors work x factor was not significant ($F_{3,300} = 0.73$; $p = 0.54$; $\eta^2 = 0.007$).

Table 6. Differences in dimensions of nomophobia among respondents due to taking up or not taking up coaching (NW-not working, W-working)

| Nomophobia | Undertaking/ not taking up work | M±SD | 95% PU medium | range (min ÷ min) | t | p | ES |
|------------------------------------|---------------------------------|----------|---------------|-------------------|------|------|------|
| I. Inability to communicate | NW (n = 77) | 25.7±7.9 | 23.9÷27.5 | 8÷42 | 0.90 | 0.37 | 0.21 |
| | W (n = 25) | 27.4±8.3 | 23.9÷30.8 | 12÷41 | | | |
| II. Loss of connection | NW (n = 77) | 12.9±5.8 | 11.6÷14.2 | 5÷26 | 0.22 | 0.82 | 0.05 |
| | W (n = 25) | 12.6±6.7 | 9.8÷15.4 | 5÷29 | | | |
| III. Lack of access to information | NW (n = 77) | 16.6±5.6 | 15.4÷17.9 | 4÷28 | 0.33 | 0.74 | 0.08 |
| | W (n = 25) | 16.2±4.6 | 14.3÷18.1 | 7÷25 | | | |
| IV. Giving up convenience | NW (n = 77) | 15.3±5.1 | 14.1÷16.4 | 5÷28 | 0.02 | 0.99 | 0.00 |
| | W (n = 25) | 15.3±5.0 | 13.2÷17.3 | 7÷28 | | | |

Table 7. Differences in nomophobia among respondents by whether or not they took up coaching (NW-not working, W-working)

| | Undertaking/ not taking up work | mean ±SD | 95% PU medium | range (min ÷ min) | t | p | ES |
|------------|------------------------------------|-----------|------------------|----------------------|------|------|------|
| Nomophobia | NW (n = 77) | 70,5±19,0 | 66,2÷74,8 | 24÷120 | 0,22 | 0,83 | 0,05 |
| | W(n = 25) | 71,5±19,5 | 63,4÷79,5 | 32÷105 | | | |

There were no significant differences in nomophobia as measured by scores on the NMP-Q between the students working as coaches and the non-working ones (Tables 6, 7).

Figure 3. shows the percentage of cases in terms of nomophobia levels (low, moderate, high) for those working as coaches and the non-working ones.

There were no significant differences in the dimensions of nomophobia between the respondents working as coaches and those not working (G = 0.86; p = 0.65 R = 0.09).

2.4. Correlations between the studied dimensions of nomophobia

Tables 8 and 9 show the results of correlations between the various dimensions of nomophobia in the groups of male and female respondents.

On the basis of the correlation coefficient analysis, it was found that only in the women’s group factor I did not correlate significantly with factor II. (r = 0.410; p = 0.052). The other factors significantly positively correlated with each other in both female and male groups. The strongest correlations in the group of female students were observed for factor II, *loss of connection*, with factor III, *lack of internet access*, and IV, *giving up convenience*, (Table 8.). Similar observations apply to the group of male respondents (Table 9.).

3. Discussion and Conclusions

The problem of nomophobia is widespread in modern reality and finds wide interest among many researchers (Notara, et al., 2021). In the study group of Sport students, varied results were obtained in terms of the severity of nomophobia. It turned out that all the subjects were exposed to nomophobia, although the severity varied.

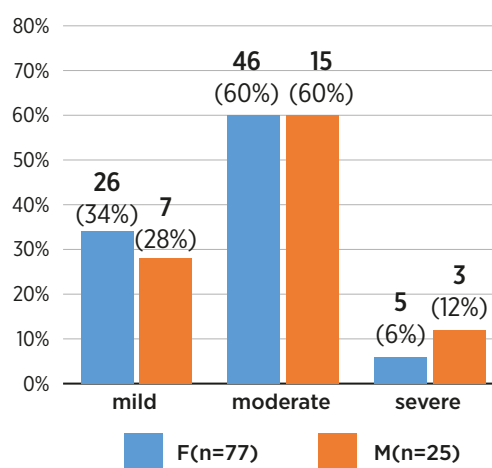


Figure 3. Level of nomophobia in non-working (NW; n = 77) and working (W; n = 25) students.

Table 8. Correlations between dimensions of nomophobia in female respondents (n=23)

| | I. Inability to communicate | II. Loss of connection | III. Lack of access to information |
|------------------------------------|-----------------------------|------------------------|------------------------------------|
| II. Loss of connection | 0.410 p = 0.052 | | |
| III. Lack of access to information | 0.444 p = 0.034 | 0.761 p = 0.000 | |
| IV. Giving up convenience | 0.631 p = 0.001 | 0.708 p = 0.000 | 0.574 p = 0.004 |

Table 9. Correlations between dimensions of nomophobia in male respondents (n=79)

| | I. Inability to communicate | II. Loss of connection | III. Lack of access to information |
|------------------------------------|-----------------------------|------------------------|------------------------------------|
| II. Loss of connection | 0.431 p = 0.000 | | |
| III. Lack of access to information | 0.367 p = 0.001 | 0.521 p = 0.000 | |
| IV. Giving up convenience | 0.417 p = 0.000 | 0.582 p = 0.000 | 0.392 p = 0.000 |

Similar insights are shared by A. Jupowicz-Ginalska, M. Kisilowska, K. Iwanicka, T. Baran, A. Wysocki, M. Witkowska and R. Lange, who present the results of a survey report on FOMO and nomophobia during the Pandemic (2021). In 2021, high nomophobia was declared by 13%, medium nomophobia by 67%, and low nomophobia by 20% of all the respondents. No significant changes were observed compared to the 2019 survey (the rates then were 15%, 65% and 20%, respectively). There were no gender differences found either. According to the authors, nomophobia promotes the occurrence of FOMO. The most strongly felt effects of not being able to use the phone were mainly anxiety caused by the lack of contact: of other people with the respondent (54% of the respondents) and of the respondent with others (50%), or in general the inability to establish immediate communication with family and/or friends (48%). The authors conclude: "It can be concluded that nomophobia is a phenomenon related to the communicative and promotional aspect of social media and the Internet use, rather than its informational dimension. It has stronger impact on people with high FOMO, who use the smartphone to be up-to-date, exchange information with the loved ones and stay in constant communication. For them, the smartphone is "the management center of their private universe" (Jupowicz-Ginalska et al., 2021, p. 34).

As for the younger population, it is noticeable that the surveyed students notice this problem in themselves. The study results of elementary, junior high, high school and technical school students show that 56% of them believe they should use the smartphone less often and, furthermore, the declarations of nearly a third of them indicate the risk of becoming addicted to new technologies. Also, the majority of the surveyed teenagers report that there are no set rules in their homes regarding their use of the Internet (Bochenek, Lange, 2019).

The results of our own research show that a higher overall rate of nomophobia is observed among women than among men. It was also women who scored higher on the first dimension, that is the *inability to communicate*.

The above observations regarding the overall nomophobia score are also confirmed in a study of undergraduate students from Saudi Arabia (Kateb

2017) and in a study conducted on a group of young adults from Greece (Vagka, Gnardellis, Lagiou, Notara, 2023). Similarly, the results of a study by Turkish authors clearly confirm that a significantly higher level of nomophobia was observed in a group of female undergraduate students than in men (Arpaci, Baloğlu, Özteke Kozan, Kesici, 2017).

It is puzzling that the type of sport practiced does not differentiate the respondents in terms of nomophobia. One might expect that those who participate in individual sports are more likely to be fearful of losing access to a smartphone due to reduced social contact, which is naturally limited because of the nature of their sport. In contrast, no studies treating physical activity and sports participation in conjunction with the risk of developing nomophobia were found.

With the expanding contemporary interest in so-called e-sports, there is observed a trend of doing research in this area. It turns out that engaging in e-sports clearly promotes the development of nomophobia, the escalation of anxiety and the occurrence of insomnia (AlMarzooqi, Alhaj, Al-rasheed, Helmy, Trabelsi, Ebrahim, Hattab, Jahrami, Ben Saad, 2022).

In our study, no significant differences in nomophobia were observed between the groups of students surveyed who work as coaches and those who do not. This result, however, was not confirmed in a study by Greek researchers, who found that higher levels of nomophobia were found in a group of young adults (18-25 years old) who do not take up work (Vagka et al. 2023). This issue seems to be of interest in the perspective of future studies that could help establish a possible link between work performance and smartphone addiction.

The results of the study indicate that there are correlations between the various dimensions of nomophobia. All relationships are positive in nature. In the group of male respondents, it was observed that the greater the tension over the inability to communicate, the stronger the anxiety associated with thoughts of losing connection with the world, with lack of access to information and giving up convenience. Very similar relationships were observed in the group of female respondents.

The analysis of the collected empirical material authorizes to draw the following conclusions with regard to the studied group of students:

1. The severity of nomophobia in the study group shows variation. The largest percentage of the respondents is in the moderate nomophobia range.
2. The gender of the subjects is a variable that significantly differentiates the severity of nomophobia. Women manifest significantly higher levels of nomophobia.
3. The type of sport played (individual/team) does not differentiate the levels of nomophobia.
4. Working as a coach (or not) is not a differentiating factor in the severity of nomophobia.
5. Positive correlations were observed – both in the group of female and male students – for the various dimensions of nomophobia, i.e., inability to communicate, loss of connection, lack of access to information, giving up convenience.

Today's world enforces the need to use modern information technologies, so we should learn to use them sensibly and safely. This task poses a serious challenge for the education of children and adoles-

cents, which should focus on the formation of proper habits in relation to the protection and increase of their physical and mental health (Wasylewicz, 2019).

Literature emphasizes that some of the factors which determine uncontrolled smartphone use and the fear of losing the ability to use it are disturbed and not close relationships within the family (Mosiolek, Jedrzejko, Jakima, Rowinski, 2022).

More and more often various health effects of excessive media use are mentioned. According to high school students from the Subcarpathian region, there are rather few of them. The young pointed to deteriorating eyesight, headaches and back pain (Wasylewicz, 2019).

Studies of the literature on the subject lead to the conclusion that there is a need for further in-depth research on the problem, which could help to recognize and classify nomophobia as a clinical disorder and identify its possible connections with other disorders (Lee, Kim Mendoza, McDonough, 2018).

It seems that it would be an interesting research problem to look for associations between practicing sports or other forms of physical activity and the occurrence of nomophobia due to the fact that engaging in sports has many benefits, both physical (fitness), as well as psychological and social.

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Ethical competencies in machine learning from a communicational perspective in the educational process¹

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Abstract: The term „artificial intelligence” (AI) refers to computer programs equipped with numerous competencies, such as making calculations, grouping and categorizing data, or communicating with the user in ethnic languages. On the other hand, artificial intelligence systems do not have certain properties, and among them, apart from the lack of „creative abilities,” is indifference to the moral aspect of actions when searching and compiling data or cataloging phenomena. This study aims to discuss selected reasons for this state of affairs in the context of machine learning (ML) methodology, including the issues and applications of artificial intelligence from the perspective of scientific communication that occurs in the educational process. Given this goal, a research problem was formulated in the form of a question: How are ethical competencies developed in the machine learning process in the context of communication occurring in the educational process? In order to answer this research question, the text analysis method and the synthesis method were used. As a result of the research, it was determined that conducting machine learning with human participation, as well as using artificial intelligence systems previously learned with human participation, may enable the transmission of moral content in the normative sense to a cybernetic machine. Since human participation allows supervised learning of cybernetic machines, this type of learning, used as the sole method or in combination with another method, offers the opportunity to provide applications with the desired information about socio-cultural rules. Fully independent training of cybernetic machines does not ensure they collect information on ethical aspects desirable in communication during the educational process because open data sets on which machine learning takes place may contain harmful content, amplifying negative social phenomena.

Keywords: artificial intelligence, machine learning, ethical competencies, communication

Introduction

Education, in a broad sense, involves activities related to people, and these activities are to be consistent with the professed system of values (Okoń, 1998). Also, applications based on artificial intelligence (AI), according to McCarthy’s original definition, are understood as the behavior of a cybernetic machine that would be considered intelligent in the case of a human (McCarthy, Minsky et al., 1955), the ability to evaluate is expected, treating it as crucial for numerous AI applications. First, the results obtained by artificial intelligence must be adequate for a given discipline and fit into its paradigm. Their correctness is determined by compliance with the assumed formal and content expectations. Language learning software

is supposed to enable proper use of the language, and the translation device is supposed to translate the text as best as possible (Massey, Ehrensberger, 2017).

Therefore, if we consider purposefully obtaining a result corresponding to the query as a condition for effective communication (understood here as the transmission and reception of communicates that constitute information)², the basic axiological assumption seems to be fulfilled here: the good as a value obtained as a result of the application’s work will determine the correctness of the result.

However, it is essential to note that such a result does not refer to moral good resulting from the social, cultural, religious, or ideological system

1 Article in polish language: https://www.stowarzyszeniefidesetratio.pl/fer/58P_Horb.pdf

2 The initiator of cybernetics, N. Wiener, wrote about the method of transmitting information and communicating between man and mechanism and between machine and machine. (See: N. Wiener, 1961, p. 7).

or moral obligation. As Hoes puts it, “artificial intelligence lacks a moral compass”; he adds that any other one also (Hoes, 2019). This is a significant limitation of AI systems, as they are not equipped with self-awareness, nor have they been found in them (Bishop, 2017). They are also not entities of social communication called proper communication, shaped by co-intentionality as the ability to share and co-shape goals and intentions specific to human cooperation (Tomasek, 2022). The status of AI may approximate the Chinese room argument introduced into the philosophical debate by Searle and intended to show in an experiment that a cybernetic machine, even if it processes data, does not have to understand it (Searle, 1980).

Since AI systems do not have a nature, they are not governed by natural law per se, nor do any rules other than those of logic apply unless they are imposed on them – unless laws are considered as self-evident as the principles of theoretical rationality applicable in science (Finnis, 2001).

Among the many divisions of AI³, those based on the type of machine learning used are noteworthy. The source of acquired knowledge plays a unique role in the learning process. Despite the undoubted differences, the process of acquiring knowledge through digital applications, like in the case of students, proceeds by obtaining it through communication with a subjectively treated teacher or the educational environment. It seems that it is possible to point out the relationship between the algorithm’s learning model and the possibility of embedding the work of AI in a moral context.

1. Machine learning methods

Machine learning is a set of activities included in artificial intelligence. Opinions about AI’s creative possibilities are divided, but it is assumed that even if independent, in the case of programs, teaching does not contain an element of creativity.

Although many machine learning methods and their divisions have been developed, they can be divided into the following three categories:

1. supervised learning,
2. unsupervised learning,
3. reinforcement learning (RL).

It is worth adding that a different learning model characterizes each of the above types of machine learning. Moreover, each is dedicated to specific problems that can be solved with its help (Flasiński, 2020).

1.1. Supervised learning

The first type involves teaching cybernetic machines by providing them with „labeled” data – with ready-made answers to the problem attached. This is done so that the system receives sample information and its classification as correct or incorrect (e.g., A or B). After collecting and analyzing the appropriate amount of such data, it can independently sort new information into one of the groups, with correctness depending on the number of previous examples and the homogeneity of their categories. In this case, we can talk about „reasoning” by analogy, when the machine refers to a similar or comparable situation and assigns new information to one of the states based on previously acquired knowledge.

Supervised learning aims to equip the machine to predict an object’s value or class. The machine achieves this by first learning many examples provided with labels for values or classes. While value prediction is used in solving a regression problem, predicting an object’s class enables its appropriate classification (Domingos, 2015).

Examples of supervised learning algorithms solving the regression problem include:

- linear regression,
- polynomial regression,
- regression tree,
- neural networks.

³ In addition to the divisions according to the learning mechanism, which is discussed in more detail here, there are other divisions, e.g., according to the data delivery method, application, or classification of machine learning systems. (Author’s note)

In turn, examples of supervised learning algorithms solving the classification problem include:

- decision trees,
- k-nearest neighbors method,
- support vector machines (SVM – support vector machine),
- naive Bayes classifier,
- random forest,
- logistic regression,
- neural networks.

The supervised learning method allows a person to follow learning processes because it assumes control over the acquired content and its interpretation in the sense of sequencing based on imposed labels. If labeling is based on moral norms, the AI will learn to imitate the recognition of data as good or bad, just as students do by reading folk tales full of morally polarized characters or in an arranged educational situation involving meetings with characters who they tell of noble deeds performed.

However, this method is rarely used because it is time-consuming and high-cost. It is worth emphasizing that although neural networks as artificial intelligence applications are supposed to enable solving both of the problems mentioned above, their work also turns out to be time-consuming; the costs of computer equipment with high computing power are also not low. Higher generations of AI are less effective than humans in „teaching” machines to recognize good and evil unless they are specially trained.

1.2. Unsupervised learning

This type of learning means that data is sent to the IT system without any suggestions regarding their classification. The computer collects and analyzes the data, then finds common elements between the data and, based on them, combines the data into groups. Man appears here only at the stage of interpreting the divisions made. This model may imply the need to limit the number of groups the system generates as a prerequisite.

When it comes to unsupervised learning (so-called learning without a teacher), its distinguishing feature is the lack of labels or classes assigned to the examples learned by the cybernetic machine. Finding connections between data is a task for the application itself. Such learning prepares the machine to group data, as in the case of clustering algorithms. In addition to clustering, algorithms that visualize unlabeled data in two or three dimensions will be used to group it with the assumption of its cause in dependencies (Sala, 2017).

The most important algorithms used in unsupervised learning – depending on the problems they deal with – include algorithms for cluster analysis, such as:

- k-means method,
- hierarchical cluster analysis,
- density-based data grouping (clustering) algorithm (DBSCAN – density-based spatial clustering of applications with noise) (Starczewski, Goetzen, 2020).

Examples of algorithms for extracting associations through visualization and dimensionality reduction are:

- principal component analysis (PCA),
- nuclear principal component analysis.

If the problem is reversed, the unsupervised learning method, given the task of distinguishing items that deviate from clusters, will eliminate groups and select only those dispersed items that do not belong to any of them. A one-class support vector machine can be used to solve anomaly and novelty detection problems.

Unsupervised learning results in a data set grouped according to some common feature or features. When interpreting the results of unsupervised learning, also in the ethical aspect, generative forms of artificial intelligence may not prove to be as effective as humans because the human, without limiting the free learning of AI by any preconditions for selection (including information about morality), will want to make the final choice on its own with selected opportunities. In this model, there is no question of

the „correctness” or „incorrectness” of the solution – evaluation is replaced by distinguishing equivalent sets or elements. In this case, lacking a teacher in the face of AI without insight into moral norms means that unsupervised learning models are morally insensitive. However, the effects of their work do not have to be morally indifferent.

1.3. Semi-supervised learning

Supervised and unsupervised learning are the main methods traditionally used in machine learning, not only separately but also as a combination of both approaches.

Semi-supervised learning algorithms are constructed using data marked with labels or classes to eliminate the inconveniences associated with supervised learning, such as its time-consuming and expensive nature, and to provide the highest possible quality to unsupervised learning algorithms. However, such labeling usually concerns a small group of data. Semi-supervised algorithms are combinations of supervised and unsupervised learning algorithms and are primarily implemented into neural networks.

A type of machine learning different from those described above is reinforcement learning.

1.4. Reinforcement learning

This type of teaching occurs when the system does not receive sample data with their classification (as correct/incorrect or good/inadequate) as in learning by analogy but also does not learn by ranking the supplied data. Its task is to provide an answer to a query based on searching an available database (often World Wide Web resources) without training, as if ad hoc and only the human reaction to the answers proposed by the machine is a source of knowledge for the system, which learns when the human selects one of them – remembering the association of the question with the answer chosen as a reinforcement, i.e., a positive signal. Machine learning of this type is carried out by interacting with the environment

based on information received from it on an ongoing basis – without previously implementing training data. Data is acquired automatically, and its submission in response to a query triggers a reaction confirming the accuracy of the choice (reward) or denying it. Reinforcement learning has vital elements: environment, agent, and buffer.

The environment is understood here as the task (real or simulation) with which the algorithm, referred to as the agent or player, interacts. The goal of reinforcement learning is to maximize an agent’s reward from the environment so the agent learns to achieve the highest possible score in a given environment.

The agent is an element that interacts with the environment to perform the task of learning to achieve the highest possible result and thus maximize the reward. A function returning an action, called a policy, is responsible for the agent’s behavior. Most often, the policy is implemented using a neural network⁴.

In turn, the buffer is a database that stores information collected by the agent during training, which is then used to train it.

As seen from the above, this learning model may, over time, assimilate the cultural, religious, or legal norms to which it receives access. However, it should be remembered that creating a sufficiently comprehensive database of controlled data may exceed the capabilities of software developers, and applications are most often given the broadest possible – uncontrolled – access to the World Wide Web so that they can use as much information as possible to answer questions effectively. This can be compared with the broadly understood educational environment traditionally described in pedagogy instead of the educational situation. While the academic environment surrounds the student in an uncontrolled manner, the problem „draws” him in, and its elements are intended to serve a didactic effect, reserving space for ethical interpretations. A narrowly understood educational environment assumes the autonomy of the student drawing from it because „it is no longer the teacher who teaches using demonstrative means, but the environment of the school classroom (not

⁴ *Reinforcement Learning and the Importance.* (From:) <https://datascience.eu/machine-learning/machine-learning-for-humans-part-5-reinforcement-learning/> (Access: January 20, 2024).

only the classroom) is a direct source of important educational impulses and cognitive conflict” (Kruk, 2009, p. 494).

Comparing the machine learning process to the developed methods of teaching students shows that, just like in the case of the classic education model where there are a student and a teacher, the machine can have a mentor. However, it will not always be human because artificial intelligence may play this role. Unsupervised learning brings to mind anti-pedagogy – perhaps it would be justified to treat this model as a distant echo of Rousseau’s concept of education – and reinforcement learning may resemble training animals so that, without understanding the reason or purpose, they perform specific actions in response to a stimulus, becoming more and more effective at recognizing it.

2. Human in the machine learning process

Initially, in each of the types of machine learning described here, human participation was considered necessary. However, current artificial intelligence models based on neural networks that have been developed in recent years are programmed in such a way as to gain the power to replace humans in the machine learning process. This means that AI can participate in both supervised and unsupervised learning and reinforcement learning. However, it seems it cannot replace humans when assigning data to their labels. Nor can it be applied to teaching methods postulated for students when the teacher presents specific contexts from which the student draws only to the extent he deems sufficient (Thomas, Brown, 2011).

The issue of machine learning, especially in the context of language models, seems to raise questions about the relationship of the categories used here to the communicability criteria commonly adopted in education and science (Kulczycki, 2017). Already in supervised learning systems, the correctness of an answer means its compliance with the collected selection of examples, and incorrectness implies the lack of such compliance. This means that correctness does not have to be identical to truthfulness and

any law or principle – it is a statistical probability. Unsupervised learning does not even contain an element of evaluation regarding the degree of correctness because the system divides the elements of the set into groups based on the standard features it searches for and interprets them as equivalent in value. Compared to training, reinforcement learning brings to mind a system of punishments and rewards that seems somewhat derived from behaviorism.

The use of artificial intelligence to improve the processes described above deepens the outlined tendencies to prefer majority judgments or conclusions based on the number of phenomena. Making the way AI processes information similar to the mechanisms of the nervous system when determining such priorities means that the correctness of the effect of reasoning – which cannot be traced in such a situation – may constitute an unsolvable puzzle for humans.

Therefore, the expectation of potential future usefulness in the case of machine learning remains outside the context of morality, which is an essential element in communication and education. This is probably because applications are trained to serve as tools. However, approaching them this way implies further doubts, making the issue more complex.

If a machine, after „training,” is to become a tool, who is to be its creator and user? Humans have traditionally made tools to aid humans; their criterion was utility. Therefore, machines taught by providing information selected by humans could, after training, be a valuable tool for interpersonal communication. However, its usefulness for humans may be questionable when AI trains a tool. After training, such a tool will probably be able to serve the AI algorithm, while AI is assumed to be used by humans. However, the lack of knowledge about how artificial intelligence obtains results may raise doubts about the possibility of using them even if it recognizes them as correct (Kasperska, 2017).

This situation is related to the black box problem, widely described in the literature, when the input and output data are known, but there is no information about the process connecting them that takes place inside (Chojnowski, 2019). However, since a person cannot determine how the result resulted from the cause, he cannot be sure of its value.

Another issue arising from the above is algorithmic decision-making (ADM). AI can make them and use the acquired knowledge. However, suppose it collects it based on rules set by itself. In that case, the decision it makes regarding a human seems to carry a danger related to its consequences for the human – the so-called risk of algorithmic discrimination (Tolan, 2018).

Although research based on modern knowledge proves the lack of awareness and the ability to think abstractly in a classical machine undergoing training and in generative AI, the nature of AI reasoning processes based on neural networks is no more evident than human thought processes. The worldview structure underlying a human decision and the system of values an individual realizes determines the clarity of their intentions, intentions, and actions. In the case of AI, the decision may depend on specific assumptions formulated by a human. Still, the inability to trace the process results in ignorance as to other assumptions made by the AI, for example, based on the criterion of the most excellent repeatability and the resulting higher effectiveness of the solution. This also shows the issue of responsibility (co-responsibility) for a decision of this type (Sierocka, 2016) when it is made by a human based on an AI recommendation and concerns other people.

3. Ethical aspect of using Big Data systems

The specificity of machine learning raises problems proportional to the advancement of IT systems, which are not observed in modern school education. One of them is the issue of liability related to algorithmic decision-making mentioned above. To be effective, neural networks learn by analyzing giant data sets (Big Data). Although such learning ensures higher effectiveness of solutions, it loses the opportunity to determine precisely what factors influenced the choice. It is, therefore, impossible to decide on the reason for a possible wrong decision.

Another issue is the strengthening of prejudices and the repetition of harmful content. When applications learn from the wide range of data they access, they also absorb the biases and other negative social phenomena contained therein, without interpreting them but reproducing and strengthening them. In the absence of guidelines regarding taking into account at least the system of values applicable in a given culture, which is part of the cultural code, this may lead to the spread of discrimination and violence. Therefore, compliance with the assumptions of pedagogical axiology seems to be particularly important in the machine learning of systems trained for use in education (Maj, 2016).

Data collection by machines during training should not violate the privacy of the people whose data the application uses. However, private data helps make solutions as effective as possible. As a result, machines that need a considerable amount of data can use all the information they have access to for training; they can collect, analyze, and process them in various ways without the consent or even the knowledge of the people who introduced them. It also risks revealing private information about users, including their data, when the cyber machine responds.

To avoid the problems mentioned above, the European Union adopted the AI Act, which specifies prohibited practices in using AI and the method of approving high-risk software. Prohibited practices include:

- artificial intelligence systems using subliminal, manipulative techniques to shape the behavior of individual people or communities, making conscious decision-making difficult;
- biometric categorization systems based on race, political opinions, trade union membership, religious or philosophical beliefs, sex life, or sexual orientation (except for network filtering in cases of law violations);
- AI systems using information about age, disability, social problems, or economic situation – showing significant social harm;

- artificial intelligence systems that rate or classify individuals or groups based on social behavior or personal characteristics, which results in harmful or disproportionate treatment in unrelated contexts or is unjustified or disproportionate to their behavior.⁵

Finally, it is worth emphasizing that a cybernetic machine may also be susceptible to attacks and manipulations during learning; it then collects incorrect training data. Even if the application software is protected against attacks, the environment from which it draws data may not meet the security requirements. Another possibility is the possible inconsistency of the environment with the programmer's expectations, resulting, for example, from the protection of some potentially needed data by their owners and, as a result, a numerical advantage in the advertising content searched by the application. In such a situation, a properly constructed application will be „unconsciously” trained to return incorrect solutions from the point of view of its creators, becoming a source of disturbances in the communication process.

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Summary

Artificial intelligence can be constructed considering its ethical aspect, which determines its use with respect for man as a person in the social and cultural dimension. It is essential to conduct machine learning and use artificial intelligence responsibly and according to moral standards.

AI is a valuable tool in education and can bring numerous benefits in terms of communication for students, teachers, and other participants in educational processes. Still, at the same time, it raises many ethical and legal dilemmas. Compliance with appropriate regulations and shaping social awareness are necessary to ensure its use under the system of values applicable to culture. It is essential to provide users with comprehensive information about how their data is collected, processed, and used by applications. The prohibition on using AI for purposes harmful to people and society contained in the AI Act and the conditions for approving high-risk artificial intelligence systems must be respected.

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Length of employment and burnout among programmers in the conceptualisation of resentment¹

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Abstract: The paper discusses the relationship between the length of employment and burnout among programmers in conceptualising resentment. Due to the lack of extensive studies in the literature on the impact of the length of employment on burnout in programmers, in the light of resentment, the authors decide to broaden the knowledge on this topic. This study aims to demonstrate the impact of the length of employment on the occurrence of burnout in programmers. A total of 80 men who deal with programming every day were studied. The respondents were characterised by various lengths of employment from 1 year to 40 years. In order to measure the variables, *the Burnout Questionnaire (LBQ)* and *the OLBI Questionnaire (The Oldenburg Burnout Inventory)* were used to examine burnout and its components: psychophysical exhaustion, lack of engagement with clients, sense of lack of professional effectiveness, and disappointment. Research tools such as *the Resentment Questionnaire and the Gotland Male Depression Scale (GMDS)* were also used to measure distress.

Keywords: professional burnout, length of employment, programmers, resentment

Introduction

In today's fast-paced work environment, programmers are a key professional group whose role is indispensable to contemporary technology-driven economy. However, increasing demands, time pressure, information overload, and intense work, often occurring in the IT industry, can lead to burnout.

This study aims to show the potential relationship between burnout and the length of employment among programmers and to show the negative emotions that make up resentment. Therefore, the research question was asked: whether longer employment in this industry is associated with a higher risk of burnout, or whether professional experience can act as a protective factor? The goal is also to conceptualise resentment and identify potential factors that may affect the development of burnout among programmers with different seniority.

As part of the study, some existing research and theories on burnout and its relationship with the length of employment were analysed. The analysis allows to verify the hypotheses regarding the relationship between burnout and the length of employment, as well as to identify potential factors affecting the conceptualisation of resentment.

1. Burnout

Work has accompanied man since the beginning of his existence. Without it, we would not be at such a highly developed, urbanistically and intellectually, level as we are today. Each subsequent day of work brings us even closer to reaching new stages in the humanity's development. However, there may be a problem, which is the phenomenon of burnout.

¹ Article in polish language: https://www.stowarzyszeniefidesetratio.pl/fer/58P_Karb.pdf

Burnout itself most likely appeared from the moment a person began to receive remuneration for the performed work, but it was defined and described in the literature for the first time by psychiatrist Herbert Freudenberger in 1974 (after: Bliska, 2004). His definition first appeared in the “Journal of Social Issue”. The author defined burnout as a “state of exhaustion of an individual caused by excessive tasks imposed on him by the physical or social work environment”, which is the result of devoting oneself to a cause or a way of life, which did not bring the expected reward (Bliska, 2004, p. 2).

Cary Cherniss (1980; 1993) proposed a definition in which the main source of burnout is competence, or rather a sense of lack of it. Excessive workload, lack of administrative support, and bureaucratic constraints are stressful not only because systemic factors do not allow professionals to use their skills in a way that allows them to achieve their goals, as Cherniss (1993) believes. The highlighted factors make employees believe that what they do is meaningless, which is why they nurture a lack of a sense of effectiveness in their work. The same approach to burnout is also shared by Helena Sęk (2009, p. 36): “In my opinion, self-efficacy and a sense of competence are so important because they give professionals a sense of meaning in existence. If my work matters, then I also matter”. An alternative understanding of burnout was introduced by Ayala Pines together with Elliot Aronson, according to whom it is a “state of physical, emotional, and mental exhaustion caused by long-term involvement in emotionally burdening situations” (after: Pines, 2011, p. 35).

The most popular, used, and most frequently cited theory of burnout is the one proposed by Christina Maslach and her colleague Susan Jackson. They present the concept of this process as a “psychological syndrome of emotional exhaustion, depersonalisation, and a reduced sense of personal achievement, which occurs in people who work with people in a certain way” (Maslach & Jackson, 1981, p. 99). Psychophysical, emotional exhaustion is treated as the first symptom of burnout syndrome. It can be described as a person’s feeling that they are emotionally overburdened, and their emotional resources are consistently used up and tend to be

exploited. Such exhaustion is identified with a state of mental and physiological overload closely related to the interpersonal contact intensity. Exhaustion is also characterised by a sense of excessive overload, disgust with work, and reduced activity. It is also manifested by a progressive decrease in interest in professional matters, pessimism, constant psychophysical tension, and irritability. This phenomenon can be compared to the depletion of life energy, which gives us strength. An increasing amount of sleep and free time is needed, which, after all, does not bring the necessary body regeneration. In order to do the work at the same level we are forced to put more and more effort into it than at the beginning. People who are exhausted at every step feel that they are not able to continue to do effective work. Symptoms such as anxiety, a sense of tension, physical fatigue, insomnia, psychosomatic symptoms, e.g., headaches, may appear (Maslach, 2011).

Due to the expansion of the theory of burnout, authors increasingly refer to it as the erosion of work engagement, i.e., what was once important, meaningful, and challenging, after time becomes unpleasant, meaningless, “usually complaining of a sense of meaninglessness in life or an inner emptiness” (Karbowski, 2021, p. 39).

1.1. Mechanism of Burnout Development

The mechanism of burnout development and its stages were most clearly presented by Jerry Edelwich and Archie Brodsky (1980). Defining burnout as a “progressive loss of idealism, energy, and purpose at work, experienced by people in *helping professions* as a result of their work” (Tucholska, 2013, p. 7). They perceive burnout as a process of growing disappointment, in which they distinguish four phases: enthusiasm, stagnation, frustration, and apathy. Therefore, the various concepts of burnout formulated by Freudenberger and Richerlison, later by Maslach, and then by Ayale Pines and Eliot Aronson, can be reduced to one common factor, are motivational models. Pines (1993, p. 41) believed that “only people with a very high initial motivation can become a victim of burnout syndrome. This is conditioned by entering professional life with huge

expectations, burning passion and hopes, which is why they measure their self-esteem by professional success”. However, most often, we encounter the model of burnout development, which consists of eight phases, which was created by Robert Golembiewski (after: Golembiewski & Munzenrider, 1991), and his work was based on the model created by Maslach presented in Table 1.

Table 1. Golembiewski’s eight-phase model of burnout

| Burnout phases | Dimensions of burnout | | |
|----------------|-----------------------|--------------------|----------------------|
| | Depersonalisation | Loss of engagement | Emotional exhaustion |
| I | Low level | Low level | Low level |
| II | High level | Low level | Low level |
| III | Low level | High level | Low level |
| IV | High level | High level | Low level |
| V | Low level | Low level | High level |
| VI | High level | Low level | High level |
| VII | Low level | High level | High level |
| VIII | High level | High level | High level |

Source: Golembiewski and Munzenrider (1991, p. 491).

Some authors, such as Michael Leiter, suggest that job demands are more strongly associated with emotional exhaustion, and resources mainly with depersonalisation and a sense of personal achievement, but the research results are not always unequivocal

in this respect (Maslach & Leiter, 2008). On the other hand, Evangelia Demerouti and her team believe that the lack of the appearance of resources is not due to burnout, but to lack of commitment (after: Bakker et al., 2002). In terms of organisational reasons and mechanisms, it is worth summarising all the elements developed by Tucholska (2003). They were classified into four distinct groups, namely: emotional, cognitive, behavioural, and mobilising and presented in Table 2.

1.2. Individual Causes of Burnout

Individual factors are primarily related to a person’s personality, in this case the employee, and their specific predispositions. It mainly applies to people with great ambitions, temperament, energetic, hungry for achievements and competition, setting the bar high for themselves, as well as others, because such employees, in addition to ambitious professional goals, also have lofty aspirations in relation to their workplace, identifying with it and deriving satisfaction and a sense of meaning from it (Borys & Majkovicz, 2006, p. 195).

In the literature, there are also mentions of a positive correlation between type D personality and the occurrence of burnout. A person with this type of personality is characterised by Tucholska (2009), distinguishing: the persistence of negative emotions, such as: stress, anxiety, worry, pessimism, anxiety

Table 2. Factors concerning the organisational level specified by Stanisława Tucholska

| Emotional | Cognitive | Behavioural | Powerful |
|--------------------------|--|---|----------------------------|
| Loss of job satisfaction | Contempt | Limiting the dynamics of activities | Minimising work motivation |
| | | Decrease in the quality of work | Reluctance to take up work |
| | | Changing jobs | Loss of initiative |
| | | Absence | Reduced job satisfaction |
| | Lack of a sense of security in relation to co-workers and superior authorities | Aversion to novelty | |
| | | Increase in accident rate | |
| | | Legalism intensifies | |
| | | Reducing working time | |
| | | Reducing the time of contact with the residents | |

Source: Tucholska (2003).

and negative internal and external attitudes towards oneself, people, the future, the world, hiding and suppressing emotions in social situations, problems in interpersonal contacts, and social situations as a source of lack of comfort. According to research by Nina Geuens et al. (2015), we conclude that nurses with type D personality are five times more susceptible to stress than those with other personality types, regardless of environmental and organisational factors in the workplace. People with type D personality perceive the environment as stressful to a greater extent than others and are afraid to reach out for help, mainly because they hide their difficult emotions and feelings inside, they are unable to externalise it (Tucholska, 2009).

An equally important factor related to the development of burnout, as well as personality, is temperament, and especially its biological features. These features include the strength of excitation, defined as the efficiency and persistence of nerve cells in coping with high-strength stimuli (Wontorczyk & Wróbel, 2013). Research shows that the “risk of burnout is higher in people who are mostly lonely, usually new employees, with a shorter length of experience, showing high levels of neuroticism, defined as anxiety and emotional instability, and those with low levels of self-esteem” (Maslach, 2011, p. 23).

Ayala Pines (2000, p. 634), the creator of the psychodynamic-existential concept of burnout, claims that the “pursuit of fulfilment at work occurred after the rejection of religion, which provides answers to existential questions. When people choose to work for religion, they try to find in it justification, sense and significance for their whole lives”. The author believes that when people decide to take up a job, they follow the satisfaction of their childhood needs, which have not been met in some way. To sum up, it is not only the emotional burden of working with other people that causes burnout, but also the experience of failure in response to the demands of the work environment; to quote Ayala Pines (2011, p. 36): “if you are dedicated to your work and emotionally involved in it, if you expect to derive a sense of meaning from your work – and you feel that you have failed, then you are probably a candidate for burnout”.

1.3. Length of Employment and Stress Levels

Work-related stress can lead to the disturbance of harmonious biological, mental, and social systems, which results in the manifestation of adverse mental and somatic symptoms. The most common consequences of mental overload include deconcentration, irritability, constant dissatisfaction with oneself and one’s work, alcohol or tobacco abuse (Makara-Studzińska, 2008). Considering the heterogeneity of human behaviour in the face of stress, Lazarus and Folkman (1984) developed two basic coping functions: instrumental, related to problem-oriented coping methods, and regulatory – related to emotion-focused coping strategies. Stress occurring at work, which has been accumulated and the lack of proper application of coping strategies, can take the form of a crisis, and ultimately lead to the burnout syndrome (Płotka, 2005). At the turn of 2011 and 2012, a study was carried out to check whether the length of employment of midwives impacts the level of perceived stress and coping strategies and the presence of burnout syndrome. Based on the results, it was not confirmed that the “level of perceived work-related stress may lead to the development of burnout syndrome” (Gruszczynska et al., 2014, p. 276). Analysing the scientific literature, we can come across several important factors that affect stress levels.

According to Hobfoll (2006), the strength derived from interpersonal, everyday contact in which a person participates can effectively protect and strengthen their well-being and mental health. Janusz Czapiński (2024) thinks similarly, he himself indicates that close and social relationships help accurately identify and overcome stressful events in connection with seniority.

1.4. Burnout and Ressentiment

Studying resentment as a difficult emotion derived from internal tensions in social relations began in 1887. This term was first introduced by Friedrich Nietzsche in his work *From the Genealogy of Morals*. He showed resentment as the attitude and source of morality of weak people with a slave mentality,

which is a negation of primitive and active morality, realising the will of power of masters (Nietzsche, 2022). At the beginning of the twentieth century, two German social scientists, Max Weber and Max Scheler, revisited the topic of resentment. Max Weber wrote: “(...) based on the Jewish ethical religiosity of salvation, a certain element, first noticed by Nietzsche, which does not occur in any magical and animistic caste religiosity, becomes important. This element is *ressentiment*. In Nietzsche’s understanding, this is a phenomenon accompanying the religious ethics of the negatively privileged, who, by making a direct reversal of the old faith, think that the source of the inequality of earthly fate is the sin and injustice of the positively privileged, sin and injustice, which sooner or later must bring God’s vengeance. In the form of such a theodicy of the negatively privileged, moralism serves as a means of validating the conscious or unconscious desire for revenge” (Hogget, 2018, p. 154-155). These feelings transform into resentment, arousing revenge, vindictiveness, hatred that does not lead to harm, or jealousy without confirmation of the scenes of jealousy (Hogget, 2018, p. 154-155). Therefore, an “inhibited and suppressed set of negative emotions applies not only to the psychological experiences of an individual, but can also be transferred to emotional states or components of cultural attitudes” (Karbowskia, 2023, p. 57). As Max Scheler writes, this is when the desire for revenge becomes vindictiveness, and the intensifying Weber recently show clear links between burnout and a sense of resentment, which may undermine the existence of a separate burnout construct and suggests that it may be one of the forms of depression (Bianchi et al., 2021).

Therefore, it can be assumed that the primary difference between burnout and distress lies in the conceptualisation of resentment, i.e., that depression affects all aspects of life, while burnout is limited to the professional context (Bakker et al., 2002).

2. Own Research

2.1. Description of Methods and How the Data was Collected

The survey was conducted from December 2022 to April 2023 and was individual. It was carried out among 80 adult participants – men, programmers, with professional experience. Subjects were recruited by a verbal invitation to participate in studies to which they had previously consented. The person was invited to a previously prepared office, the investigator conducted the survey starting from filling in the metrics and giving the following questionnaires to be completed:

1. The Burnout Questionnaire (LBQ) by Santinello (2014) in Jaworowska’s Polish adaptation was used to measure the level of burnout. The questionnaire distinguishes four dimensions of burnout: psychophysical exhaustion, lack of involvement in client relations, a sense of professional ineffectiveness, and disappointment as an existential dimension of burnout;
2. The OLBI (The Oldenburg Burnout Inventory) – a questionnaire allows to measure two dimensions of burnout (and engagement): exhaustion and withdrawal of commitment/cynicism (Chirkowska-Smolak, 2018);
3. Resentment questionnaire – a pentabase method developed based on the “Method of systemic description of professional competencies” (Rogalińska, 2011). The study focused on subjective assessments of four aspects of resentment, using the pentabase method in the following dimensions: temporal, spatial, energetic, informational;
4. Gotland Male Depression Scale (GMDS) adapted to Polish conditions by Jan Chodkiewicz in 2016. The items concern both typical symptoms of depression, such as anxiety, sleep problems, fatigue, difficulty in making decisions, tendency to self-pity, as well as atypical symptoms – feeling excessive stress, burnout, and frustration, difficulties with self-control, alcohol and drug abuse, increased activity through excessive work

and/or physical exertion, as well as changes in the current functioning noticed by the respondent and their relatives (Chodkiewicz, 2017).

2.2. Research Objectives, Variables, and Hypotheses

The task's aim was to examine the relationship between the length of employment and burnout among programmers in the context of resentment.

The independent variable at work is the length of employment and the dependent variables are: burnout which consists of: psychophysical exhaustion, lack of commitment to client relations, a sense of professional ineffectiveness, disappointment, exhaustion, withdrawal of commitment/cynicism, as well as distress and resentment.

The research paper indicates the following main research problem:

Is there a relationship between the length of employment and burnout?

In this context, the following specific questions have been formulated:

1. Does the level of burnout among programmers depend on the length of employment?
2. Does the level of resentment increase with the length of employment?
3. Is there a connection between burnout and resentment?
4. Does the sense of professional ineffectiveness affect the level of distress?
5. Do disengagement and exhaustion correlate with the length of the internship?

The paper formulates the main hypothesis, which states that:

The level of burnout among programmers depends on the length of employment.

Detailed research hypotheses are also specified, claiming that:

1. there is a relationship between the length of employment and the appearance of resentment;
2. there is a relationship between burnout and resentment;
3. there is a relationship between the sense of professional ineffectiveness and the level of distress;
4. lack of commitment and exhaustion correlate with the length of employment.

2.3. Demographic Characteristics of Respondents

The research involved adults, men who deal with programming in the broad sense of the word on a daily basis. The distribution of sociodemographic characteristics among the respondents is presented in Graph 1.

The vast majority of the respondents had higher education (81.3%), the rest had secondary education (16.3%), and primary education (2.4%). A significant proportion of people live in a large city with more than 100,000 inhabitants (75%), while the rest live in a small town with 5,000 to 100,000 inhabitants (13.8%), and in rural areas with less than 5,000 inhabitants (11.3%).

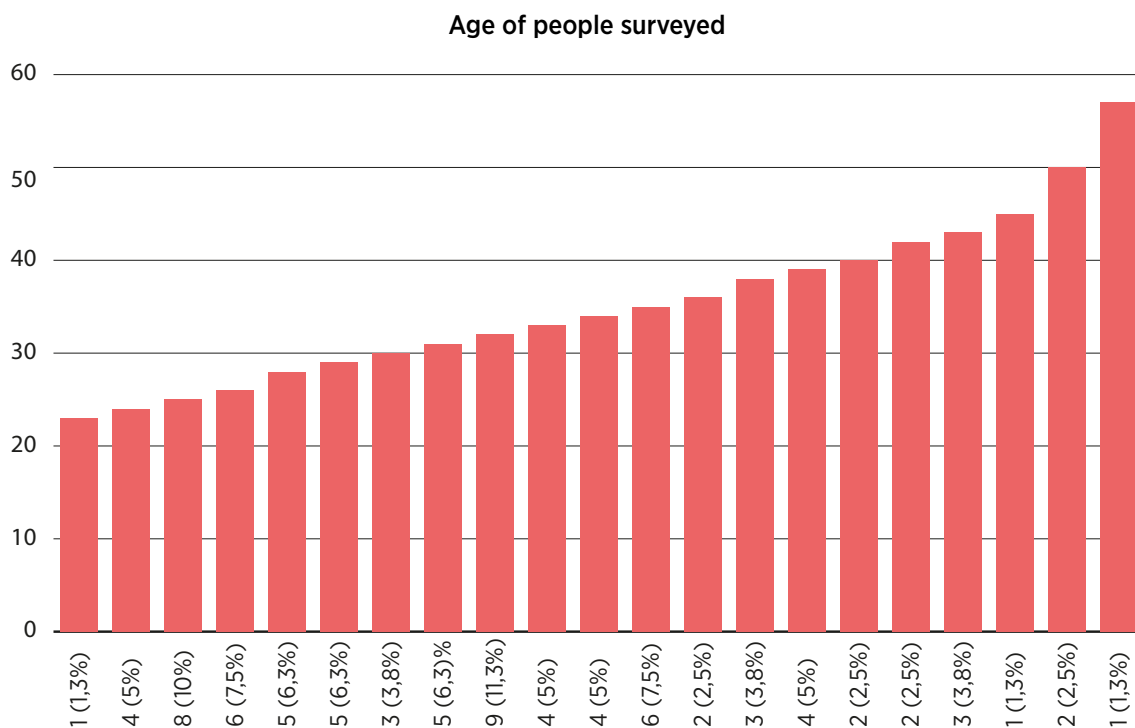
3. Research Results

3.1. Correlation of the Length of Employment with Burnout

Table 3 presents the Shapiro-Wilk normality test for variables: length of employment and burnout.

Table 3. Normality of distribution test for variables: length of employment and burnout

| Variable | Shapiro-Wilk normality test | |
|----------------------|-----------------------------|-------|
| | W | p |
| Length of employment | 0.883 | 0.001 |
| Burnout | 0.985 | 0.496 |



Graph 1. The number of people surveyed at a given age and their percentage distribution. Source: own study.



Graph 2. Number of surveyed people with a given length of employment and their percentage distribution. Source: own study.

In Table 3, we can see that the results for the length of employment variable did not meet the assumption of normality of the distribution, so the rho-Spearman correlation test was used to calculate the correlation.

Table 4. Correlation between length of employment and burnout

| Scale | Length of employment | |
|---------|----------------------|-------|
| | Rho | p |
| Burnout | 0.066 | 0.564 |

Table 4 presents the correlation between the length of employment and burnout. As we can see, the result is not statistically significant ($\rho = 0.066$; $p = 0.564$), i.e., there is no correlation between the variables.

3.2. Correlation of Length of Employment with the Overall Level of Self-Esteem

Table 5 presents the Shapiro-Wilk normality test for variables: length of employment and general level of resentment.

Table 5. Normality of distribution test for variables: length of employment, and general level of resentment

| Variable | Shapiro-Wilk normality test | |
|-----------------------------|-----------------------------|-------|
| | W | p |
| Length of employment | 0.883 | 0.001 |
| General level of resentment | 0.976 | 0.145 |

The normality test of the distribution for the variable “length of employment” was not met. Therefore, the correlation between the variables was calculated using the rho-Spearman correlation test, and its results are presented in Table 6.

Table 6. Correlation between the length of employment and the general level of resentment

| Scale | Length of employment | |
|-----------------------------|----------------------|-------|
| | Rho | p |
| General level of resentment | 0.023 | 0.840 |

Based on the results presented in Table 6, it can be stated that there are no statistically significant correlations between the variables: length of employment and the general level of resentment ($\rho = 0.023$; $p = 0.840$).

3.3. Correlation of Burnout with the General Level of Resentment

Variable burnout and overall resentment levels will be checked by the Shapiro-Wolf Normality Test, and the results are shown in Table 7 below.

Table 7. Normality of distribution test for variables: burnout and general level of resentment

| Variable | Shapiro-Wilk normality test | |
|-----------------------------|-----------------------------|-------|
| | W | p |
| Burnout | 0.985 | 0.496 |
| General level of resentment | 0.976 | 0.145 |

The results in Table 7 indicate that each of the variables met the assumptions of the normality of the distribution, so the Pearson correlation test was used to calculate the correlation, the results of which are shown in Table 8.

Table 8. Correlation between burnout and overall resentment levels

| Scale | Burnout | |
|-----------------------------|---------|-------|
| | r | p |
| General level of resentment | -0.532 | 0.001 |

Table 8 shows the correlation between the variables: general level of resentment and burnout. As we can read from it, the results indicate there is a statistically significant relationship between the variables ($r = -0.532$; $p = 001$) (negative mean correlation).

3.4. Correlation of the Sense of Professional Ineffectiveness and Distress

Table 9 presents the results of the Shapiro-Wilk normality test for the variables: the “sense of professional ineffectiveness” and distress.

Table 9. Normality test for variables: the sense of professional ineffectiveness and distress

| Shapiro-Wilk normality test | | |
|---|-------|-------|
| Variable | W | p |
| A sense of professional ineffectiveness | 0.945 | 0.002 |
| Distress | 0.980 | 0.239 |

For the variable the “sense of professional ineffectiveness”, the assumptions about the normality of the distribution were not met, so the rho-Spearman correlation test was used to calculate the correlation between the variables.

Table 10. Correlation between the sense of professional ineffectiveness and distress

| A sense of professional ineffectiveness | | |
|---|-------|-------|
| Scale | Rho | p |
| Distress | 0.352 | 0.001 |

As can be seen from Table 10, the correlation between the variables: “distress” and “sense of professional ineffectiveness” were statistically significant, showing a slight positive correlation ($\rho = 0.352$; $p = 0.001$).

3.5. Correlation of Disengagement and Exhaustion with the Length of Employment

Table 11 presents the results of the Shapiro-Wilk normality test for the variables: the length of employment and the lack of commitment and exhaustion.

Table 11. Normality of distribution test for variables: length of employment, disengagement, and exhaustion

| Shapiro-Wilk normality test | | |
|-----------------------------|-------|-------|
| Variable | W | p |
| Length of employment | 0.883 | 0.001 |
| Lack of commitment | 0.975 | 0.122 |
| Exhaustion | 0.985 | 0.472 |

Based on the results presented in Table 11, it can be concluded that for the variable “length of employment”, the conditions of normality of the distribution were not met. To calculate the correlation between the variables, the rho-Spearman correlation test was used, the results of which are presented in Table 12.

Table 12. Correlation between the length of employment, disengagement, and exhaustion

| Length of employment | | |
|----------------------|-------|-------|
| Scale | Rho | p |
| Lack of commitment | 0.079 | 0.487 |
| Exhaustion | 0.058 | 0.606 |

Analysing the results in Table 12, it can be clearly stated that there is no statistically significant correlation between the variables of length of employment and lack of commitment ($\rho = 0.079$; $p = 0.487$). The same applies to the case between the variables: length of employment and exhaustion ($\rho = 0.058$; $p = 0.606$).

4. Discussion of Results

The verification of the research hypotheses was carried out after statistical analyses. In order to verify the main hypothesis, detailed hypotheses were presented to help answer the question whether the length of employment impacts the development of burnout among programmers in the conceptualisation of resentment.

The main research hypothesis was as follows: “The level of burnout among programmers depends on the length of employment”. The results in Table 4 indicate that the correlation between the length of employment and burnout is not statistically significant ($\rho = 0.066$; $p = 0.564$). Therefore, it can be concluded that the hypothesis has not been confirmed, i.e., there is no correlation between the length of work of programmers and professional burnout. When we consider what the work of a programmer looks like (sitting at a desk for many hours, repetitiveness in sequences of writing programming code, monotony, sometimes looking for an error in the created program, which can be one wrongly placed letter), it can be concluded that the length of employment has a significant impact on the possible occurrence of burnout, which, however, has not been confirmed by research. With possible further research or reconduct, it would be necessary to narrow down the group of programmers to those who only write programming code. Research was conducted on a broader group of programmers (who have contact with customers, run their own businesses, work in companies that take care of their employees, deal with various projects, take part in training, are constantly developing, etc.). As it turns out, there are also other studies confirming that the length of employment does not have to affect burnout, but applies to other professions. Sowińska et al. (2012) studied burnout in nurses and how it affects the length of their employment. Her research did not find a relationship between burnout in nurses and their length of employment. In her work, Sowińska also cites three other studies that also did not confirm such a hypothesis. Sicińska’s (2015) research also did not confirm the relationship between burnout and the length of employment. In her case, the study concerned massage therapists and cosmetologists (Sicińska, 2015).

The first detailed hypothesis was: “The level of resentment increases with the length of employment”. The results presented in Table 6 undermine the assumed hypothesis by demonstrating the lack of relationship between the length of employment and resentment ($\rho = 0.023$; $p = 0.840$). It was assumed that the longer someone works in a given profession, the skills, experience, self-confidence increase in direct proportion, and all this translates into the level of resentment. Unfortunately, it was not possible to find any research in the literature stating the relationship between the length of employment and resentment.

Moving on to the second detailed hypothesis, formulated as follows: “There is a relationship between burnout and resentment”, a statistically significant correlation was found at the level of the negative mean correlation ($r = -0.532$; $p = 0.001$). The hypothesis was confirmed and the results are illustrated in Table 8. Negative correlation indicates a feedback loop between these two variables. It means that if the level of burnout in programmers increases, their resentment increases, and similarly, if the resentment decreases, the level of burnout decreases. There are also studies that have already been done in 1995 to confirm the hypothesis. A study conducted by Koeske and Kelly (1995) showed the existence of an inverse relationship with the occurrence of burnout ($r = -0.24$, $p < 0.05$). It may be related to one of the symptoms of burnout, which is cynicism. Cary Cherniss writes that cynicism includes negative self-esteem, experiencing fears about the future and stability of the workplace, feeling guilt and harm (Fengler, 2001).

The third detailed hypothesis states that “There is a relationship between the sense of professional ineffectiveness and the level of distress”. The hypothesis was confirmed by the rho-Spearman correlation test, the results of which are presented in Table 10. The correlation between ineffectiveness and distress ($\rho = 0.352$; $p = 0.001$) was determined to be slightly positive. So, when the sense of professional ineffectiveness grows, distress grows with it. It also works the other way around, so if one of the variables decreases, the other does too. Stress is usually divided into two categories: positive stress (eustress) and negative stress (distress). Distress is a form of stress that arises in the body in response to a threat and other unpleasant

and stressful situations that are the result of a stress factor. Massimo Santinello (2014, p. 4) writes about the sense of professional ineffectiveness that “it is a dimension relating to the assessment of one’s own professional competencies. One end of this dimension is characterised by a sense of effectiveness at work, effectiveness in achieving professional goals, while the other – a sense of ineffectiveness and lack of results at work”. The correlation in the case of these two variables was probably revealed due to the fact that a person facing ineffectiveness at employment stress, which in this case is negative. Another argument that may support the correlation of distress with a sense of professional ineffectiveness is the correlation between stress and burnout. Distress as negative stress causes a sense of professional ineffectiveness and is a component of burnout, causing intensification of resentment. Maslach (2011) argues that burnout syndrome is very much associated with occupational stress, which results from the interaction of many different factors in the workplace.

The last, fourth detailed hypothesis, “Lack of engagement and exhaustion correlate with length of employment” has not been confirmed. The results in Table 12 show that there is no statistically significant correlation between these variables. In some respect, this hypothesis coincides with the first detailed hypothesis, where the relationship between burnout and the length of employment was studied. The scale, disengagement, and exhaustion are part of the overall burnout score. Based on a review of the available literature on burnout, it was not possible to find a satisfactory explanation of the results.

Based on discussions and analyses of detailed hypotheses and all results, it can be concluded that the length of employment does not affect the development of burnout in programmers. It is very possible that many other factors are responsible for the lack of connection between the length of employment and professional burnout, such as combining passion with work, salary at a very high level, numerous bonuses and training in companies, contact with other people who share a passion for programming, business trips, etc. It may be important to continue research on programmers and expand knowledge about this professional group.

In the literature, we can find more research on the links between burnout and length of employment, but they concerned other professions. Interestingly, as Santinello (2014) states, the highest risk of burnout applies to people who work for a relatively short time (2-4 years). At the beginning of their professional career, they have idealistic ideas about work, but over time they encounter a reality that often does not meet their expectations, arousing emotions and a sense of resentment. This gradually leads to the development of burnout. In the next research, we can collect a group of programmers with a small work experience of 2 to 4 years and try to confirm the hypothesis that during this period, the risk of burnout is the highest.

Summary

This paper’s aim was to answer the question whether there is a relationship between the length of employment and the level of professional burnout among programmers in the conceptualization of resentment. The scientific areas that the researchers were interested in were burnout and its components (psychophysical exhaustion, lack of involvement in relationships with clients, a sense of professional ineffectiveness and disappointment). It was decided that examining variables such as resentment would allow us to see a broader picture of the research, as well as the burnout syndrome in programmers. In this study, no statistically significant correlation was observed between the length of employment and the occurrence of burnout among programmers ($\rho = 0.066$; $p = 0.564$). These results suggest that the length of employment has no effect on the level of burnout in this group. On the other hand, significant associations were identified between burnout and resentment ($r = -0.532$; $p = 0.001$), and a sense of professional ineffectiveness and distress ($\rho = 0.352$; $p = 0.001$). It means that the occurrence of burnout among programmers causes resentment, as well as an increase in symptoms of distress.

The research results provide the basis for further planning of explorations, which may deliver additional information on the studied depend-

encies, e.g., on the impact of low resentment as a factor protecting against burnout in programmers. The growing interest in programming may be a motivation to continue research in this field.

Therefore, it is worth considering conducting further research, this time focusing on the female gender, as there are a significant number of women actively involved in programming.

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Creativity as a means of shaping human subjectivity according to Wiesław Karolak¹

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Abstract: The aim of this article is to present creativity as a means of shaping human subjectivity, based on the art therapy practice of Wiesław Karolak. The author's understanding of art therapy is one of therapy through creativity (or artistic expression). It is based on the belief in man's creative nature. Creativity is not exclusively reserved for artists, as it is a universal trait that characterizes every human being. However, the adoption of creative attitudes in contemporary culture is not encouraged by modern scientific and technological civilization and consumerism. A human being can choose between two ways of functioning: the automatic realization of imposed patterns of existence, or the conscious experience of life, which involves setting one's own goals. It is necessary to actualize the creative nature, including the dispositions responsible for creation, in order to become a subject, i.e., the source of one's actions. The Creativity Supporting Development program, co-authored by Karolak, is undoubtedly helpful in this process. The author implements its principles in art therapy workshops, the purpose of which is the formation of human subjectivity. Based on his own artistic education, he gives a special role to expressing the visual. He frequently uses drawing, which he equates with thinking. Through the creative activity of drawing, the participants in the workshops become aware of what was previously incomprehensible to them and gain insight into their own emotions, which ultimately leads to self-knowledge. Through the discovery of their own creativity in the realm of art, they have the desire to use it in their daily experiences. In this way, they become conscious subjects who responsibly direct their own lives according to the knowledge gained through creative exploration. Artistic expression activates a creative attitude that is characterized by "novelty". Thus, human subjectivity is an expression of productive thinking in the conceptualization of Otto Selz, which takes on a creative form within a specific social context. The method of content analysis is the basis of this text.

Keywords: artistic expression, creativity, culture, creative therapy, subjectivity, creative nature

Introduction

Herbert Read's assertion that "man is above all the one who creates" (Read, 1967, p. 7) provides the foundation upon which both aesthetic education and art therapy are constructed. According to Read, human beings create beautiful things from an early age, however, this ability is gradually lost as individuals become immersed in civilization determined by scientific and technological revolutions. Furthermore, contemporary consumerism also does not favor creative attitudes. It is crucial to highlight that this anthropological assumption is applicable to all individuals without distinction, irrespective of age, level of education, or profession. This does not imply that it is limited to gifted and educated artists alone. Every human being

has the capacity to create and to form themselves in the likeness of a piece of art, thereby shaping a singular identity. This process takes place through artistic engagement, whether it is experienced in aesthetically pleasing situations or enacted through creative endeavors. Art enables individuals to actualize their characters, thereby revealing new psychological dispositions that facilitate creative thinking and action. This subjective constitution of human beings serves as the foundation for independent functioning in the world. According to Kazimierz Obuchowski, "...the distinguishing feature of the subject is the intention to define one's identity and to integrate goals and actions in relation to a coherent whole" (Obuchowski, 2000a, p. 89).

¹ Article in polish language: https://www.stowarzyszeniefidesetratio.pl/fer/58P_Kowa.pdf

This understanding of subjectivity is contingent upon the knowledge possessed by the individual, both that which is already held and that which is self-actualized. It is this knowledge that serves as the foundation for the setting of goals, which in turn directs the course of one's entire existence (Obuchowski, 2000a). Consequently, human subjectivity should be equated with conscious agency (or decision-making), which enables self-determination and presupposes freedom: "...the highest form of human behavior is conscious action. This is an action whose actual motive, or program and goal, the individual is able to formulate. The formulation of a motive for it should be such that it can be subjected to the individual's own control. It should also be verified, modified, and the behavior itself can be subjected to intentional control at every stage of its enactment. Therefore, an individual who is aware of their intentions and the reasons behind them is able to direct their behavior, adapt it to the situation, and even abandon it in favor of another, more appropriate action. Individuals are the subject of their own behavior. As such, they are accountable to themselves for actions that disrupt the order of the world in which their life unfolds" (Obuchowski, 2000b, p. 34).

While human beings are subjects from the moment of birth, the attitude of adults, including parents, guardians, teachers, and educators, is of paramount importance in guiding the purposeful development of their evolution. One method of shaping such subjectivity is art therapy, which was conceptualized by Wiesław Karolak as a form of developmental therapy. He is a co-author of the educational and art therapy program, Creativity Supporting Development. The initiative was developed at University of Lodz, at the International Institute of Education through Art, which is part of the Department of Humanities and Economics. In emphasizing the program's objectives, the author notes that Creativity Supporting Development encompasses exercises and creative workshops that are intended to facilitate the practical thinking and action skills of participants. The workshops can be conceptualized both as a methodology of engagement and as a tool, serving as a consultative and exercise instrument for the resolution of fundamental existential issues. They primarily seek to

facilitate self-knowledge and enhance our capacity to recognize and actualize the extraordinary potential within us (Karloak, 2005, p. 149).

Karloak uses the term "therapy through creativity" interchangeably with art therapy, as do many other art therapists. In this context, art therapy is referred to as "creative therapy" (Karloak, 2019). The individual creative process of those partaking in a workshop serves as a means to enhance human development. Consequently, the kind of therapy he proposes has a deeply anthropological nature, with the aim of activating human subjectivity and shaping individual humanity.

The author, emphasizing the role of art as an anthropogenic factor, does so from the dual perspectives of an artist and an art therapist. As a highly experienced therapist with an artistic education, he has conducted hundreds of sessions, workshops, and projects: "I have carried out these initiatives with children, youth, students, teachers, methodologists, therapists, and people from many cultures in various places in the country and abroad" (Karloak, 2015, p. 7). The author presents his method of working in the realm of creativity and creative training, which he continually refines to meet the needs of the participants in his sessions.

The purpose of this article is to discuss the process of the formation of human subjectivity that takes place during developmental therapy, as it is conceptualized by Karolak. In order to achieve this goal, the first step will be to characterize the understanding of humanity that underlies this form of therapeutic intervention. Subsequently, drawing, which is conceptualized as a form of thinking, and the method of activation of the creativity of the individual during this form of art therapy will be examined. The content analysis method is used herein.

1. The Human Being – "Homo Creator"

Wiesław Karolak is a firm believer in human creative nature: "... man is creative in his essence, that in every person there is a hidden power – the power of creativity" (Karloak, 2019, p. 28). Therefore, creativity

is a universal characteristic of the human species. The author draws attention to the ambiguity of the concept of “creativity” in the European culture. In the field of aesthetics alone, this concept is variously defined and is of interest to different disciplines, including philosophy, psychology, education, and cultural studies. Each of these fields deals with creativity in its various aspects, including the creative subject, the creative process, the product of creative activity (a work of art), the audience for art, and the subjective and objective conditions of creativity. Karolak employs a philosophical view of creativity that is intimately tied to human subjectivity and relates to human functioning in the world. This perspective on creativity emphasizes personal development associated with acquiring certain formal competencies, including perceiving, identifying, and solving problems (Karolak, 2014). These skills are helpful in the management of challenging situations that require rapid response and action. The author points out that there is a close relationship between human subjectivity and freedom: “In such a philosophical perspective, a subjective person is a free person. Freedom here means that the person is the source of decisions, which means that he is a creative person (and, incidentally, it is worth noting that creativity has always been associated with freedom). A free person is a self-actualizing person. And a self-actualizing person is nothing other than a person who ‘takes his destiny into his own hands’” (Karolak, 2019, p. 27).

The formation of subjectivity in therapy through creativity is a process of human creation. Karolak is in agreement with Virginia Satir’s therapeutic approach, stating: “...‘Creating people’ has the same qualities as composing music or painting pictures. ‘Creative therapy’ treats a person as a medium of art – sometimes discouraging, irritating, stubborn or dull, but sometimes even humiliating, albeit inspiring.” A creative therapist views his or her student as a unified entity, encompassing both plasticity and rigidity, brilliance and dullness, variability and constancy, intellect and emotions. A creative therapist is akin to a choreographer, historian, phenomenologist, body researcher, dramatist, thinker, theologian, and visionary (Karolak, 2019, p. 27). Those in positions of authority in therapeutic settings must be aware of

the diverse needs of the individuals they serve, who present with a wide range of personality traits and characteristics, necessitating the flexibility of the therapist to adapt to their unique needs. The application of uniform or standardized treatment approaches is therefore contraindicated, given that individuals cannot be treated in a manner that is either generic or formulaic. Instead, the therapist should adopt an individual approach, encouraging clients to engage in their own creative pursuits. In Karolak’s words: “Creativity is defined here as a specific set of skills that can be acquired through the application of certain rules and actions related to creative problem solving. Based on the assumption that creative action is a skill involving the transformation of thoughts, emotions, energy, and objects, practical improvement of this trait is proposed” (Karolak, 2005, p. 150).

Karolak observes that individuals frequently lack awareness of their creative abilities. In fact, these abilities often lie dormant or unacknowledged. In a manner reminiscent of the teachings of Socrates, the author asserts that within each person lies a wealth that provides inspiration and can be uncovered: “Only in oneself did each one carry their treasure, and there they found the source of inspiration” (cited in Karolak, 2005, p. 149). The words of the renowned philosopher and founder of ethics are referenced to underscore the internal endowment of human beings. According to Karolak, the process of revealing what is valuable in a person – that is, unveiling the hidden axiological content with a creative potential – occurs through the creative act, equated with expression. This form of creativity should be honed through continuous practice. A single instance of expression is not sufficient for a lasting change to occur in a person. Rather, a consistent disposition towards expression is necessary. The author emphasizes that the advocated creativity has nothing to do with the romantic vision thereof: “We treat creative thinking and action similarly to any other type of human activity. We believe that it is possible and even necessary to program our future – to program success” (Karolak, 2005, p. 150-151).

The author proposes a duality in human behavior. He draws upon the work of Makary K. Stasiak (2015) and differentiates two models of human functioning:

the Enlightenment model and the Consciousness model. The former represents the unconscious individual, whereas the latter, as the name suggests, pertains to the conscious individual. An individual operating within the unconscious realm is passive, whereas a conscious person is an active and self-determining subject. This classification posits that a human being can either adhere to externally imposed patterns of behavior and common conduct automatically, or he or she can independently decide about their life and realize their own goals. “An organism that is unaware of its status as an autonomous subject and of its role as a player in a game with its environment usually behaves in a habitual manner. The internal structure, or subjective dispositions, are determined and defined. An organism that plays the game with its environment as an autonomous subject, that is to say, in accordance with its subjective dispositions. It activates such skills and responds to problems in accordance with the limitations imposed by its subjective dispositions. “It cannot alter its individual dispositions” (Stasiak, 2015, p. 134). An individual in a state of unconsciousness is incapable of transcending limitations experienced in daily life. In contrast, a conscious individual is a self-actualizing being in a state of continuous growth and evolution, expanding their identity and acquiring the skills necessary for autonomous functioning: “A conscious person can be deliberately creative. This deliberate creativity means that they perceive themselves as a subject playing a game with their environment and reflect on the games they play.” An individual who is conscious of the nature of the games being played can modify themselves and these very games. In particular, an individual in a state of consciousness can enhance their predispositions in such a manner that they begin to prevail over situations that previously caused them to fail or experience losses (Stasiak, 2015, p. 134).

When an individual engages in creative activities, they transform their mode of functioning – from an unconscious being to a conscious subject. This process involves the actualization of their subjectivity, enabling them to think and act independently. Karolak identifies this state of mind as “deliberate creativity”, a term borrowed from the aforementioned Stasiak. As Karolak notes: “Prof. Dr. Makary K. Stasiak de-

fines deliberate creativity as achieving development through a deliberate agent and states: ‘new possibilities for directing one’s own development arise for the deliberate agent. They gain insight into how they themselves operate. They can thus directly influence their behavior and modify it in ways that promote development’ (Karloak, 2005, p. 149).

Karolak posits that the capacity to alter one’s functionality via a creative approach is accessible to all individuals. There is no predetermination or fate that engenders inequalities among individuals. Throughout the process of attaining a conscious mode of functioning, the art therapist plays a pivotal role in achieving the objectives of creative therapy. The effectiveness of these approaches is contingent upon the active subjectivity of the individual, which is characterized by creative thinking and action. “A conscious person can act as a trainer and organize various situations in such a way that they cause subjective development in unconscious people” (Stasiak, 2015, p. 136). As Stasiak emphasizes, “The role of the trainer is to elicit a creative act, which entails enhancing the efficiency of the subject’s actions. This objective is achieved by enhancing the subjective dispositions of the client” (Stasiak, 2015, p. 137). The creative act is initiated through the implementation of innovative techniques, methods, and artistic means utilized in art therapy. In the creative development model proposed by Stasiak, the importance of organizing boundary situations, or what he refers to as deliberate situations, cannot be understated. This endeavor is aimed at encouraging individuals to depart from their customary behaviors. The responsibility of the trainer is to foster a culture of reflection and evaluation of newly acquired behaviors on a continuous basis.

2. Drawing as a form of thinking

Cognition and thinking are associated with theoretical order according to Aristotle’s aspect theory. However, creative thinking is closely connected with the realm of human production in art therapy, including the approach of Karolak. Individual artistic expression using various forms of art is necessary to activate this type of thinking. Since visual arts, including digital

forms, are important to the author, he is a proponent of their use in creative therapy. His emphasis is especially on the role of drawing. His premise is that everyone can draw – children, adolescents, and adults. “Drawing has been the most democratic art discipline, accessible to everyone. It does not require crossing a certain technical threshold. It is a ‘substitute for a work of art’” (Karolak, 2015, p. 21).

The author asserts that the concept of drawing is not a monolithic entity, as the term is perceived in a variety of ways. He characterizes it as follows: “Drawing is a branch of visual art, the essence of which is the use of line on a surface. (...) Drawing is often a preparatory study, a preliminary sketch for a composition in another technique (painting, graphics, or sculpture). However, on occasion, the sketch itself may be regarded as a complete drawing, a final work” (Karolak, 2015, p. 30). There are various ways of drawing, different tools and materials used in this art, and multiple possibilities for teaching drawing. The act of drawing is spontaneous, deriving from an internal urge to express one’s experiences, feelings, and emotions. Additionally, the act of drawing can be motivated by a request or instruction from a workshop leader, further enhancing its versatility. Given its brevity, drawing can be an effective activity within time-restricted contexts.

Although traditionally associated with the visual arts, drawing is also regarded as a form of cognitive activity. This view was reinforced by the participation of numerous artists and critics in a project titled “Now Drawing,” held in 2013 at the University of the Arts in Poznan. The event prompted debate among professors from leading Polish art academies on the essence of drawing.

As one such professor, Karolak proposed that drawing represents a mode of thinking: “Drawing represents the first stage of creation, functioning as the most basic form of recording thoughts, preliminary notations, inquiries, and reflections. In this context, the act of sketching can be regarded as the simplest and most effective language through which the intentions that arise in the mind are conveyed” (Karolak, 2015, p. 21). According to *Uniwersalny słownik języka polskiego* [*The Universal Dictionary of the Polish Language*] drawing is defined as “a symbolic

representation of something,” and “a collection of certain symbols” (Dubisz, 2003, p. 1024). Thus, when drawing, one can utilize symbols. Karolak adds: “(...) personally, I most often describe drawing as ‘thinking on paper.’ This form of thinking is highly valuable. When thinking on paper, we engage in multiple iterations of thought (at least five times):

- first, we think (what to draw, why),
- second, we give form and shape to our thoughts (how to draw),
- third, by drawing the form, we use our hand (it can be said that we ‘think with our muscles’),
- fourth, we look at the drawn shape (thinking with our sight),
- fifth, looking turns into seeing (reflective, questioning thinking)” (Karolak, 2015, p. 27).

The act of drawing on a surface represents a process of cognitive actualization, whereby the individual attempts to comprehend concepts that were previously inaccessible to them, delving into their emotional and internal experiences. This ultimately leads to the achievement of self-knowledge. As Edwards (2006, p. 44) asserts: “the objective of drawing is not merely to illustrate the intended subject matter but also to reveal the artist’s inner self.” The process of drawing is known to stimulate creative thinking and action, and is believed to ultimately activate human subjectivity, as it requires the individual to dissociate themselves from their own self, others, and the environment. This estrangement allows the individual to discover their agency in the realm of art, and to gain a profound conviction that if they can have a real impact on their drawing, they can also independently shape their own life and external reality.

Karolak posits that the creative manifestations of participants engaged in art therapy should be evaluated beyond the parameters of conventional artistic standards. He asserts that the primary objective of such expression is not to produce artwork that conforms to commonly accepted artistic norms. The author acknowledges the prevalence of drawing as a therapeutic and diagnostic tool. He underscores the inherent interconnection between therapy and diagnosis. However, he differentiates between thera-

peutic and diagnostic drawing. Therapeutic drawing in art therapy, he posits, differs from diagnostic or projective drawing: “In projective tests, drawing is very directive, diagnostic, telling what should be drawn. In art therapy, freedom of expression should be encouraged” (Karolak, 2015, p. 31).

In opposition to the tendency of some to interpret drawings in an overly simplistic manner, which detracts from their therapeutic value, Karolak asserts that a therapist must recognize and address the complexities inherent in the content of a patient’s drawings. These may include conscious, unconscious, or even incomprehensible elements, which the patient may be unable to fully comprehend. In his 2015 work, Karolak (p. 23) further elaborates, stating: “A therapeutic drawing cannot be treated as a collection of signs and symbols that can be interpreted using strictly defined rules and specific analytical categories. An art therapist engaged in the analysis of drawings for therapeutic and cognitive purposes must be aware that a competent psychotherapeutic interpretation of a drawing is almost unattainable without specialized training. Moreover, there are no universally accepted methodologies for the assessment or analysis of such drawings. The acquisition of simplified book knowledge about the interpretation of drawings for diagnostic purposes is not a sufficient preparation for a diagnostic analysis.”

According to Karolak, the primary tenets of creative therapy can be summarized as authenticity and the intensity of the creative experience. The latter is believed to be responsible for the organization and alteration of human experience, as well as for the perception and interpretation of one’s surroundings. This perspective is corroborated by the words of Samuel T. Gladding, who states that “the choices and transformation of patients during therapy result from their own reflections on aspects of life they previously did not notice. Art, it is argued, not only acts as a catalyst for change but also provides insight into a broader context. It evokes emotions and provides the patient with new possibilities for action. By doing so, it broadens the patient’s horizons, enabling them to re-engage with the world and work towards their own achievable vision of the future” (Malchiodi, 2014, p. 320).

3. The method for activating human subjectivity

The methodology employed by Karolak in his proprietary program, Creativity Supporting Development, is derived from his anthropological assumptions. He espouses a belief in the creative capacity of humans, which informs the structure of his proposed workshops. These workshops aim to foster human subjectivity. In his therapeutic approach, he posits that the patient’s creative activity, understood as self-expression, plays a pivotal role. Accordingly, the art therapy developed by Karolak may be categorized within the broader field of “expressive therapy” (Malchiodi, 2014). The program’s sessions revolve around six primary themes: school, home, family, work, money, and health. Supplemental topics include the self, time, the world, happiness, success, and values. Therefore, these workshops possess an existential nature: “These workshops mainly serve to get to know oneself and deepen our perceptions of the extraordinary possibilities within us. In the exercises, we reflect on values, on what constitutes the fullness of life, on top of what love, kindness, and happiness are. Here, we deeply explore issues such as the home, family, school, work, and money. Here, we discover ourselves. The essence of these workshops for each person is to independently arrive at self-knowledge, understanding their capabilities and limitations” (Karolak, 2005, p. 149). In the initial stages of the workshop, participants are encouraged to individually determine the scope of meaning for the concepts that are the subject of creative reflection during the sessions. This is followed by an invitation to share their thoughts with others, thereby enabling them to experience similar reflections. As Karolak (2005, p. 149) notes, “the aim of the workshops is to create open situations for the exchange of emotions, thoughts, signs, and languages.”

The creative output of participants in art therapy is influenced by the therapist’s approach, which involves asking a range of questions related to the chosen theme. This process facilitates self-reflection and encourages creative expression. Władysław Karolak’s approach bears resemblance

to the methodology employed by Socrates (as outlined by Tatarkiewicz, 1993). Like Socrates, Karolak emphasizes the importance of seeking truth through a process of questioning and provides numerous guidelines for the proposed workshop scenarios. As Władysław Tatarkiewicz observed, Socrates' epistemological theory was essentially a methodology of knowledge acquisition: "Socrates was not a theoretician but a virtuoso of method; he did not formulate its rules but demonstrated by example how to apply them. The methodology he employed was one of discussion and intellectual collaboration. It consisted of two parts, negative and positive, 'elenctic' and 'maieutic': the first taught how to remove false beliefs, while the second how to acquire true ones" (Tatarkiewicz, 1993, p. 75). Socrates held the belief that through the appropriate posing of questions, every individual was able to achieve the knowledge that resided within them: "Socrates called his second method maieutics, or the art of midwifery; he thought that every person carries true knowledge within themselves but is unaware of it, and needs help to bring it forth; hence, the teacher's function is analogous to the art of midwifery. Socrates fulfilled this role by asking questions. His method was one of joint searching, which today is called heuristic. The role of the leader lay in skillfully asking questions;" (Tatarkiewicz, 1993, p. 76). It is important to note that the skill of asking questions is derived from an understanding of the fundamental nature of reality. Although Socrates was a highly regarded educator in Athens, he was not a repository of ready-made knowledge: "(...) he did not promise to impart the truth to his students, but rather to engage in the search for truth alongside them" (Tatarkiewicz, 1993, p. 75). Similarly, Karolak does not provide his workshop participants with preconceived solutions. He neither proffers ready-made responses to the issues under consideration nor suggests how these issues should be approached.

It is essential to acknowledge that the methodology employed by Socrates was driven by a pragmatic objective. Through the acquisition of knowledge, he sought a lasting and spiritual

benefit, not simply material gain. He understood truth to possess objective properties distinct from those of the sophists, who viewed it as relative and conventional. As a moral philosopher, he believed that only knowledge – or truth – was efficacious in achieving the moral objective. This objective, he posited, was the moral improvement of people: "One who possesses knowledge, and consequently virtue, possesses the greatest good and thus is happy" (Tatarkiewicz, 1993, p. 78).

To demonstrate the efficacy of Karolak's art therapy method, it is essential to present one of his proposed exercises, titled "The tree." This exercise comprises three phases and a confrontation of the results of creative activity. The initial phase invites participants to reflect on the concept of a tree: "What kinds of trees do we have? What associations do you have with a tree? Can you find a symbolic, poetic, or metaphorical interpretation? Think about which tree you identify with. Are you strong like an oak? Are you trembling like an aspen? Are you like an acacia, beautiful but with thorns? What kind of tree are you? Imagine this tree, which has roots, a trunk, branches, and twigs. So, part of the tree is underground, and part is above ground. In the ground, there are probably thick and thin roots. Above ground, there is the trunk and the crown. Does your tree bloom, bear fruit, or lose its leaves?" (Karolak, 2015, p. 64). In the subsequent phase of the exercise, participants are requested to visualize the tree they have identified, which may be either a deciduous or coniferous tree or any other type of a tree: "Please record all your thoughts in writing" (Karolak, 2015, p. 64). Finally, clients are encouraged to reflect on their values: "Please consider what values guide you in life. Which are the most important to you? Find a place on your tree where you would like to mark this. On a leaf? On a twig? On a branch? On the trunk? On the roots?" (Karolak, 2015, p. 64). Following the individual intellectual reflection phase and the subsequent creative visualization, the workshop participants engage in a comparison of their works, with an aim to identify and confront their conclusions: "What conclusions can you draw from your works?" (Karolak, 2015, p. 64).

Conclusions

The aim of art therapy, as conceived by Karolak, is to shape and transform the human condition by means of creativity. The author places particular emphasis on the therapeutic value of drawing, which he views as an act of thought and a means of understanding the internal and external world through the use of lines on a surface. The therapeutic value of drawing is enhanced by the method of questioning, which is similar to that of Socrates. The purpose of drawing therefore goes beyond the purely artistic dimension to encompass a wider anthropogenic role, which extends into the realms of subjectivity and the activation of the human condition. Artistic expression undertaken by workshop participants actualizes the human creative nature, including human creative dispositions and emotionality, through which deliberate creativity emerges – first in relation to the tasks considered during therapeutic sessions and subsequently in everyday life. Through the realization of their own creative potential within the context of art, individuals seek to apply this potential in their everyday lives. The development of an internal sense of agency and a desire to independently determine the direction of one's life, based on knowledge gained through creative exploration, occurs within. The participants become the source of action by realizing their own goals. They embark on a path of conscious functioning, which allows them to break away from passively following established life patterns. Instead, they adopt an active stance towards life by abandoning conformist behaviors in favor of creative effort. Creativity is a more challenging pursuit compared to unconscious imitative functioning. This is because it requires inner determination and resilience to the stress associated with living in constant tension and taking risks.

The concept of deliberate creativity should not be limited to aesthetic considerations, such as the ability to paint or sculpt. Instead, it encompasses the development of specific formal skills related to creative thinking and action that enable a subjective way of life. As Władysław Tatarkiewicz notes, since the 20th century, creativity has become a domain of all branches of culture and is no longer reserved solely

for art. Consequently, one can be a creative scientist, a creative engineer, a creative person, etc. The defining characteristic of contemporary creativity is a “novelty”: “While in the 19th century it was believed that only the artist is a creator, in the 20th century the idea emerged that not only artists can be creators; individuals active in other branches of culture can also be creators. Creativity is possible in all fields of human production (...) creativity is recognized by the novelty of its products, and novelty appears not only in works of art but also in those of science and technology” (Tatarkiewicz, 1988, p. 299).

It bears emphasizing that Karolak does not impose upon the participants of the workshops any specific content, as Socrates did not provide his interlocutors with any ready-made solutions. He is convinced that the result of subjectivity activated in a productive manner is productive thinking, which can manifest in a variety of creative ways, and is significantly distinct from reproductive thinking. The division of modes of thinking originates with Otto Selz and pertains to realistic thinking aimed at problem-solving: “According to Selz, the result of productive thinking is the creation of new intellectual content, while reproductive thinking consists of various forms of reproducing past experiences” (Nęcka et al., 2020, p. 404). The category of novelty plays a significant role in productive thinking: “In relation to productive thinking, novelty can concern either the product resulting from the thinking (e.g., the developed solution to the problem) or the cognitive process that led to this product. The content and outcome of productive thinking are new from the perspective of the thinker's existing knowledge but not necessarily from the perspective of others, especially all of humanity” (Nęcka et al., 2020, p. 404). As Edward Nęcka asserts, the social context determines whether productive thinking also involves creative thinking, contingent on the presence of valuable novelty (Nęcka et al., 2020).

A pertinent question that arises in light of the shift from a passive to an active approach to functioning is whether the essence of humanity can be defined in a meaningful manner. The pursuit of discovering the purpose of life – which provides meaning to human existence – is an intrinsic aspect

of human nature, as evidenced by the emergence of myth and subsequently philosophy in European culture. Although these two explanatory frameworks for the world are fundamentally divergent, as they both imbue human existence with meaning. From a psychological perspective, K. Obuchowski also corroborates the assertion that humans seek to comprehend the significance of their own existence (Obuchowski, 2000b). In his view, “the meaning of life, which determines the development of personality, makes an individual’s life stable, gives it significance, and is a central factor of personality. Even ‘imperfect’ forms of life meaning, such as the given meaning of life, play a limited but important role” (Obuchowski, 2000b, p. 264). Therefore, the discovery of the meaning of life is a prerequisite for the development and optimal functioning of an individual. Wiesława Pielasińska (1983) posits that this profound need for meaning can be fulfilled through creative expression, which is characterized by significance and value. She underscores the axiological dimension of this human activity. Pielasińska posits that attention should be focused on the subjective aspect of value, specifically the process of valuation, through which an individual assesses the goodness or badness of an object or situation and thereby becomes motivated to take further action. She observes that Herbert Read had previously queried the relationship between expression and values, positing that the answer is contingent on one’s interpretation of the concept of expression. This can be equated with play and the notion of “living in the moment,” or alternatively, with the practice of therapy. In the first case, expression is associated with joy and pleasure. In the second case, the association between expression and value depends on the theoretical perspective adopted. In the context of psychoanalysis, expression serves a compensatory

function, relieving internal tensions and conflicts. In contrast, humanistic psychology emphasizes the adaptive and self-realizing aspects of expression: “Accepting human development conditioned by internal forces, this approach emphasizes personal values of expression as the basis for affirming one’s existence, individuality, and uniqueness” (Pielasińska, 1983, p. 31). Pielasińska also notes that humanistic psychology posits that expression originates within the individual. However, this perspective ignores the fact that external reality also provides a significant source of motivation for self-expression. The act of becoming acquainted with the surrounding world allows an individual to internalize content that can subsequently serve as a source of inspiration for one’s creative endeavors, subject to the individual’s personal standards and criteria. Consequently, the value of human expression from the standpoint of cognitive science becomes evident: “The more a person takes in through their cognitive structures, the more they can give of themselves. Expression and perception are not two separate abilities, but mutually complementary processes. Read also closely links three types of activity: the internal need to communicate one’s experiences and feelings, observation, which is the pursuit of recording, preserving one’s knowledge and supporting it with practical activity, and finally evaluation, that is, the human reaction to values in the world of facts” (Pielasińska, 1983, p. 31).

The act of engaging in creative activity allows a person to become a conscious subject within a scientific-technological civilization, thereby opposing the pervasive influence of consumerism. Such individuals become active subjects in the creative process, transcending their own passivity and continuously engaging in the experience of what is valuable. This occurs through both thinking and acting in a creative capacity.

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Listen, talk, understand. Interpersonal communication in a senior project¹

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Abstract: Studies carried out around the world on the structure of human populations clearly indicate that modern society is “aging”. Demographic indicators show the dynamism of this process, and thus the trend of population ageing will intensify in the coming years. That is why the activation and activity of older people is so important, this is a condition for functioning in society, playing assigned social roles, meeting bio-psychosocial needs and, above all, communicating. Its absence can cause progressive disability, social isolation, loneliness. That is why activating senior projects aimed at increasing independence and counteracting the risk of social marginalization are so important in the lives of seniors. The aim of the research was to establish the factors that determine proper communication with the elderly people. The study involved 86 seniors, participants of the senior project entitled: “Passion – a recipe for eternal youth”. A qualitative strategy was used to collect and analyze the data using partially categorized interviews. In order to supplement the information obtained during the interviews, an analysis of the documents held by the senior project organizer was carried out. The presentation of the results of the study was divided into three areas related to communication: listening, talking, understanding. In order to build effective interpersonal communication with seniors, it is important to understand individual experiences, specific needs, expectations and concerns. For seniors in the process of interpersonal communication important elements are: empathy, patience, commitment, as well as understanding their shortcomings related to the aging process. The openness of expressing desires and needs by seniors is fostered by appreciation and listening. In their family environment, they notice a deficit in the area of active listening, as well as the infantilization of the message addressed to them. They emphasize the very important importance of communication in their lives, and identify its lack with loneliness and isolation. They believe that the activity they undertake in the auditory, motor and cognitive spheres affects the slowing down of the aging process, as well as helps in communication. Taking into account the results of the study, it should be proposed to increase the awareness of people working in senior projects on the specifics of interpersonal communication with seniors through the organization of educational trainings in this area, which should be reflected in legal regulations.

Keywords: activity, communication, senior, social exclusion

1. Theoretical introduction to the original research

Ageing and old age are terms that are interpreted and approached in various ways, and have various meanings. No single point in time where they start can be identified. The literature mentions many factors that contribute to the periodisation of old age, including the starting criterion, the different pace of ageing of different individuals, and the longer average lifespan. Ageing can be analysed in chronological, social, biological, as well as psychological terms (Kliszcz, 2019). The phenomena of ageing and old age are the subject of numerous interdis-

ciplinary studies, which so far have not resulted in the development of a definition that would not raise any doubts. This is why the literature looks at these phenomena from different perspectives. In the sociological perspective particular importance is paid to the changes in the social roles, financial situation, and activity of elderly people. In the psychological perspective, the degradation in a person’s personality, more profound loneliness, and withdrawal from interpersonal contacts play an important role. In the medical perspective, irreversible and permanent biological changes in the human body are the most important (Pięstrzyński, Sarzała, 2020, p. 74).

¹ Article in polish language: https://www.stowarzyszeniefidesetratio.pl/fer/58P_Szcz.pdf

A systematic increase in the proportion of elderly people in Poland's total population has been observed in recent years. At the end of 2021, the number of people aged 60 and more was 9.7 million, or 25.7% of Poland's total population. Statistic Poland's forecasts concerning people in this age group for 2030 indicate an increase in the size of this group to 10.8 million, and in 2050 its size may reach 13.7 million. According to Statistics Poland's forecasts, elderly people will constitute about 40% of Poland's total population (Statistics Poland, 2022a). Women are the majority of seniors' population. Most seniors live in cities. Only 28.8% of people aged 60 and more consider their physical fitness level as very high or high, and one in two seniors consider it average (Statistics Poland, 2022b). A decreasing number of seniors use libraries, attend cultural centres, clubs, and clubrooms. However, the biggest problem faced by elderly people each day is loneliness. One in five people aged 65 and more feels lonely, and this ratio is significantly higher among those over 80 (Little Brothers of the Poor Society, 2023).

The activity and mobilization of elderly people are therefore very important, as they make them interact with others, communicate with the world around them, and thus become members of specific social groups (Wawrzyniak, 2017). Loneliness, progressing disability, social isolation, and even premature death may be due to lack of activity (Kaczmarczyk, Trafiałek, 2017). The most important aspect of seniors' life is activity, which is directly correlated with their health, happiness, satisfaction, and quality of life. It determines seniors' sense of utility in the society (Młyński, 2018). In addition to the prophylactic, therapeutic, adaptive, integrating, shaping, informative, and psychosocial function, senior's activity is also aimed to 'support, for as long as possible, young and active old age and delaying, for as long as possible, dependent, passive, and senile old age' (Kawińska, 2018, p. 52).

One of people's basic activity at all development stages is proper communication. Proper communication with seniors contributes to, among other things, creating and maintaining social ties, expressing one's own desires, feelings, thoughts and experiences, belonging to a social group, a sense of being needed

and important, expanding and/or complementing the knowledge of elderly people, maintaining mental and physical fitness, respecting the rights and dignity of elderly people, etc. (Pitala, 2019). Communication with seniors may be hindered by the changes taking place in their cognitive processes, their behaviours and attitudes, as well as the failure of communication participants to take into account the difficulties associated with the ageing process (Pitala, 2019). Loneliness and alienation are caused by an unfriendly environment where contacts with others are only fragmentary and partial, and interpersonal relations are narrowed down to people's social roles. External and internal barriers appear nowadays that lead to difficulties in proper communication, including inclination to manipulate others, making decisions for others, imposing one's own opinion, paying attention to parts of statements and overlooking the rest, perception problems, a way of speaking that is incomprehensible to the interlocutor, lack of understanding and empathy, as well as generational communication barriers (Pitala, 2019, p. 162). The way elderly people communicate is affected by, among other things, biological factors, which include changes in their body and development process, also during the ageing phase. In the cognitive sphere, this includes the way they categorize the world, their value system, their life experiences, and the knowledge they have acquired. In the environmental dimension, communication can be affected by access to education, the place of residence, and the origin. The way seniors communicate can also be influenced by psychological factors as well as historical and socio-cultural conditions (Rosińska-Mamej, 2019). The existing barriers in the communication with elderly people discourage those around them from such communication, which, as has been mentioned, is the condition for their activity and mobilization. Active listening is essential in communicating with seniors. In view of the fact that a senior's answer can be slow and multi-threaded, often contains references to his or her own experiences and describes in detail things that are not very important, is slow in expressing the senior's thoughts and difficult in articulating his or her needs, the interlocutor must be very patient and understanding.

Due to the increasing involvement of organizations and institutions in the problem of ageing in the society, and considering the actions aimed at the stimulation of the activity of this social group, special attention must be paid to the communication with elderly people. Actions addressed to seniors must follow a thorough diagnosis, which requires active listening. Thanks to the right diagnosis, it is possible to help/support seniors in satisfying their needs. Also, the best ideas for activities for seniors cannot be implemented if the people conducting such activities are not prepared for proper communication with elderly people.

2. Senior policy – good practices

Senior policy in Poland is based on ‘targeted long-term and systemic impacts of the state and other public and non-public entities on the shaping of the legal, economic, and social conditions with the aim of creating for elderly people an advantageous life situation that is adapted to the social and economic needs that change with age and to the health care and protection in all periods of life of elderly people’ (Ministry of Family, Labour and Social Policy, 2018). Currently the primary objective of senior policy is to improve the quality of life of elderly people by enabling them to stay independent for as long as possible (Słabiak, 2022). The senior policy’s objectives are achieved at the national as well as local and regional government level. Senior policy at the national level is implemented by the Ministry of Family and Social Policy. Programmes supporting seniors’ activity at this level include the Senior Wigor programme, later transformed into the multi-year Senior+ Programme for 2015-2020, the Government Programme for the Social Activity of Elderly People ASOS, and Opieka 75+. The first document dealing with issues associated with senior policy was the Objectives of the Long-Term Senior Policy in Poland for 2014-2020, on the basis of which another document, ‘Social Policy Towards Elderly People Until 2030. Safety – Participation – Solidarity’, was drafted. In 2023, senior policy became a task to be implemented by local and regional governments at

all levels (Act of 9 March 2023 amending the Act on commune-level local government the Act on district-level local government, and the Act on provincial-level regional government, 2023). This does not mean, however, that local and regional governments had not performed programmes addressed to seniors before that. The activities of this type include, for example, establishing universities of the third age, opening day care nursing homes, running animation programmes, and establishing senior councils.

A document that serves as a kind of road map for the achievement of social objectives in the Mazowieckie Province is the ‘Social Policy Strategy of the Mazowieckie Province for the Years 2021-2023’ adopted in 2022 by the Assembly of the Mazowieckie Province. The ‘Senior Policy Programme for the Mazowieckie Province for the Years 2022-2026’ develops and specifies in more detail the objectives and activities of that Strategy. One of the numerous open tenders organized by the Mazowieckie Province with the aim of implementing its senior policy is the tender for non-governmental organizations and the entities listed in Article 3 (3) of the Act on public-benefit activity and volunteering in the area of ‘Activity for the benefit of occupational and social integration and reintegration of people at risk of social exclusion’, and in particular in the tasks referred to as ‘Actions for the benefit of seniors in the area of increasing independence and countering the threat of social marginalization’. The organizer of the tender offers annual contracts under which the bidders will carry out actions including, in particular, organization of events and workshops for seniors, building and developing generational and inter-generational dialogue, ensuring access to new digital media, and attractive leisure activities.

As part of this tender, for the last five years, the ‘Feniks’ Foundation for Safety has regularly organized the public task entitled ‘Passion – A Recipe for Everlasting Youth’. The principal criterion determining the possibility to take part in projects addressed to senior is a person’s age. In Poland, a senior is defined as a person of retirement age, i.e. Someone who has turned 60 (women) or 65 (men). Interestingly, in the public tasks implemented by the Mazowieckie Province for the residents of that province, the term

“elderly person” (senior) is understood as someone 55+ years old (by year). The objectives of the public task ‘Passion – A Recipe for Everlasting Youth’ conform to the objectives of the strategic documents of the Mazowieckie Province: the Social Policy Strategy of the Mazowieckie Province for the Years 2021-2023 in the area of senior policy and the Provincial Senior Policy Programme for the years 2022-2026 for the Mazowieckie Province.

When planning activities under the ‘Passion – A Recipe for Everlasting Youth’ public tasks, it was taken into consideration that elderly persons have right to access broadly-defined education and should feel obligated to work on their own development with the support of third parties. Since education can help seniors adapt to the economic, cultural, and social changes taking place in modern societies, it is important that the actions offered as part of the projects addressed to seniors are well-planned and, most importantly, fulfil the needs of the addressees.

Due to the great diversity of the senior population and the complexity of their needs dependent on the dynamics of their ageing, their biographies, and their individual personalities, it is necessary to diagnose the needs of seniors participating in each public task. The project ‘Passion – A Recipe for Everlasting Youth’, which consisted of two thematic blocks, Safety and Passion, was a response to the analysis of the needs of the beneficiaries of a public task, conducted in 2019 by the ‘Feniks’ Foundation for Safety. In the successive years of the projects, the tasks conducted as its part changed as a result of the evaluation conducted. The tasks conducted each year in the ‘Passion – A Recipe for Everlasting Youth’ project included workshops: ‘Don’t let them cheat, ridicule, or insult you’, ‘A safe senior in the world of new technologies’, ‘Exercise sets with fitness elements’, ‘Nordic walking’, and ‘Cooking is my passion’. To address the needs of the seniors participating in the project in the years 2019-2023, two other activities were performed: the ‘Senior on the road’ workshop, a training on first pre-medical aid, a training on countering domestic violence, a workshop titled ‘You can be a volunteer too’, a workshop ‘A senior’s sexual health’, a workshop ‘Surfing the net’, and a dog therapy workshop. Since 2023, in view

of seniors’ needs, a workshop has been conducted to improve the social skills and competences in the following areas:

- coping in difficult situations;
- coping with stress;
- increased self-esteem;
- increased awareness of own resources;
- motivation for being active, prevention of demotivating factors;
- assertiveness training;
- memory and attention focus training.

The offer of the organization carrying out the project was expanded in 2024 to include a visual art workshop, a music and singing workshop, and an ecology and gardening workshops.

As the originator and coordinator of the ‘Passion – A Recipe for Everlasting Youth’ project, the author of this paper has seen the key importance of proper communication to the achievement of the project’s objectives. Communication helps build trust and a sense of self-esteem, helps reduce anxiety, fear, and loneliness, and gives a sense of belonging to a social group. Unfortunately, as Krzysztof and Agnieszka Ozga rightly notice, in literature on medicine, pedagogy, and social work, ‘discussion on real communication with elderly people is negligible’ (K. Ozga, A. Ozga, 2018, p. 277).

3. Methodology of the original research

In 2022-2023, a study was conducted with the aim of discovering the needs of seniors, the aptness of the activation measures, and the unique characteristics of communication with the seniors participating in the project addressed to seniors entitled ‘Passion – A Recipe for Everlasting Youth’. The results presented further in this paper concern a specific part of the study that focused on learning the unique characteristics of communication with elderly persons. The following research problem was formulated: What factors determine the proper communication with elderly persons? Data was

collected and analysed using a qualitative strategy based on the method of individual interview focused on the experiences of seniors participating in the 'Passion – A Recipe for Everlasting Youth' project. The study used a partly categorized interview, which provided some flexibility by allowing asking additional questions. Due to the continuous contact with the seniors participating in the project, the author did not have any problems with recruiting the members of the study group. The trust earned in the course of implementation of the project resulted in extensive, concrete, and thoughtful statements. The time spent with the seniors helped build positive relations, which resulted in a friendly and comfortable atmosphere during the interviews. In order to complete the information obtained during the interviews, the following documents were analysed: report on the completion of the public task for the year 2022, report on the completion of the public task for the year 2023, evaluation of the public task 'Passion – A Recipe for Everlasting Youth' for the year 2022, and evaluation of the public task 'Passion – A Recipe for Everlasting Youth' for the year 2023.

The study involved a group of 86 seniors, individually designated in results section as (S), residing in rural areas of the Mazowieckie Province, specifically in the following communes: Bielsk, Radzanowo, Nowy Duninów and Bulkowo. The majority of the respondents were seniors aged 60-65 (39%) and 66-70 (22%). The study group also included seniors aged 71-80 (17%) and 55-59 (5%). Seniors aged 81 and more were the smallest group (3%) among the respondents. Women were the majority (81%) of the respondents. The respondents evaluated their health as good (72%) or very good (28%). Most of the respondents (79%) lived with their relatives and others (21%) lived by themselves.

4. Results of the original research

Presentation of the results can be divided into three areas associated with communication: listening, conversation, and understanding. These elements are an

important means to convey and disclose information, and constitute a method for collaboration in the process of activation of elderly people.

According to the seniors' accounts, there is a big problem with communication in the family environment in terms of listening. What is needed is not only listening to the seniors' needs, but also listening to them in matters of daily life. Even though they live with their relatives, they feel lonely. In their statements, they explain their family members and provide such excuses as lack of time, too much work, and problems at work or in personal life. The seniors are also aware that their relatives do not listen actively to what they have to say. One of the female respondents mentioned the following situation as an example: 'Sometimes I don't even feel like answering her questions, because I know that she is not listening to me. It happened many times that I talked to her and she talked on the phone at the same time or interrupted me to tell me about something else' (S3). On the other hand, seniors who lived by themselves said that they most often contacted their relatives by telephone. Their situation was a little different in terms of the ability to talk, but they were aware that the person they are on the phone with was not necessarily listening to them. If, in the caller's opinion, the conversation was too long, it was most often interrupted and ended with the promise of calling again. The situation was completely different when it came to listening to the seniors by the persons implementing actions as part of a project addressed to seniors. During the analysis of the needs, each senior can declare in which activities he or she wants to participate. The person conducting the analysis patiently listens to all suggestions, discusses them, provides additional information, and asks about interests or passions. Since there is no time limit, it is not necessary to interrupt the seniors' statements (Szczęsna, 2023b). The seniors noticed the flexibility of the instructors conducting the different workshops who, even at the expense of the time allocated for their workshops, listened to what the participants had to say: 'On the day we had the Nordic walking workshop, our friend Kaziu had an accident. We came to the workshop but we were all distracted and did not want to exercise. The instructor sat with us and

attentively listened to what happened, asked how we felt, and consoled us' (S17). Patience and empathy of the instructors is particularly important to seniors, especially if they suffer from speech disorders. One of the respondents admitted during the interview that after the stroke that he had suffered, he was embarrassed about his unclear, slow, and sometimes incomprehensible speech. However, when he noticed that the instructor patiently listened to what he had to say and asked if she understood him correctly, he began to participate in the activities actively. In their statements, the seniors stressed that during the activities they felt that the instructors not only heard them, but also listened to them.

A conversation is a tool used by elderly people mainly to express their own needs and opinions, and to present the state they are in. For the seniors participating in the study, of particular importance during a conversation was the patience and attention demonstrated by their interlocutor. What irritates seniors the most during a conversation is being interrupted or ignoring what they have to say: 'The worst thing is when someone interrupts me; they I often don't remember what I wanted to say and I start to get nervous' (S51). Several seniors admitted that they were aware of the fact that they most often talked about trivial things and their poor health. They know that hearing once again about their illnesses or life experiences may be tiresome to the people around them. However, they explain this by the intention to attract the interlocutor's attention. They have a very good opinion about the social skills and competences workshop conducted as part of the project. The exercises conducted during the workshop help them remember some words: 'During the memory and attention focus training, we solved a crosswords. I noticed then that I know many words, but I forgot them (...) I think that this happens because I don't use them on a daily basis' (S70). Moreover, the seniors are able to formulate long statements associated with their self-esteem. During a conversation, the instructor tries to find out the most about the senior's strengths and remind him or her in this way how unique and important he or she is (Szczęsna, 2022a). An important aspect for seniors is to adjust the message to be conveyed so

that they can understand it. Vocabulary that is too complicated and incomprehensible terminology discourage seniors from taking part in a conversation. Several respondents also pointed to the fact that the sheer possibility of having a conversation, without a specific topic, is very important to them: 'Form me personally, it does not matter what workshop is conducted on a given day; what is important is that someone comes to talk to us (...) Sometimes we need a conversation about everything and nothing, so that there is someone you can talk to' (S22). The importance of a conversation for seniors is demonstrated by the fact that the social skills and competences workshop is the most popular among them. During the activities, seniors often very eagerly talk about their feelings, thoughts, and emotions. At the end of the activities, they often emphasize that so far they have not talked about such things with anyone. The oldest respondents regret that their families talk to them like they talk to children. The language they use could be described as *baby talk*, and involves the use of simple sentences, brief messages, the plural form, and diminutives (Szostakowska, 2019, p. 9). They feel sorry that their families do not treat them 'seriously'.

During the interviews, many seniors noted the fact that they were aware of the ageing processes that have taken place in their life. These processes were a factor affecting how they communicated with the people around them. In conversations, they increasingly discussed issues that were irrelevant to the main topic of the conversations, added digressions, or made statements that were too detailed. Another problem in their communication was the inability to remember a common word, the slow pace of their speech, or their multi-thread statements. They also pointed at the fact that they felt 'overwhelmed' by the changing reality and did not understand the events and information around them, which made them experience a sense of chaos. They do not understand everything young people say, do not understand the terminology used in the media, and the lack of explanation and clarification causes in them a sense of loss and aggression. During the stress coping workshop, the respondents had the opportunity to identify different types of stressors in their daily life: not

being listened to, lack of understanding of what they have to say, ignoring their statements, as well treating them as if they were children. They increasingly feel a lack of attention on the part of those around them and dissatisfaction caused by a sense of their own imperfection, also in terms of communication.

The seniors are irritated by being perceived by the people around them in terms of their dependency and helplessness, when they consider themselves to be active and fully capable intellectually. They believe that the reason for this is the stereotypical perception of elderly people as infirm, requiring care, and a burden to their families. They are sorry to admit that they can be difficult partners in conversations. However, they believe that due to their life experiences, memories, and contribution to the current reality, they can be rightful partners for a dialogue. In their statements, they emphasize that they not only place demands on others, because they are aware that they also need to place demands on themselves. They think that their activity in the areas of listening, motion, and cognition slows down the ageing process and helps them communicate with others. Particularly valuable is their motivation to be active and stimulate their own development by making positive changes to their daily life, among other things. Participation in prophylactic and educational activities offered as part of a project addressed to seniors provides them with such an opportunity. All respondents positively evaluate the understanding of their needs and the communication during their participation in the activities conducted as part of the 'Passion – A Recipe for Everlasting Youth' project. What is especially important to them is a diagnosis of their needs so as to enable them to present their suggestions about the activities to be conducted. They mentioned participating in another project where they were not allowed to choose and were required to participate in activities that they did not find interesting: 'Nobody asked us if we wanted to participate in computer classes (...) It was very difficult and we did not understand anything. The instructor told us to press something and did not even come close to see if we did it correctly (...) After five minutes I did not know what to do and the instructor was not interested in coming close' (S84). The fact that they can present their suggestions each

year allows the seniors to participate in interesting activities that, in their opinion, have a very positive impact on their activation. This is confirmed by the increasing number of persons volunteering to participate in the project (Szczęsna, 2022b). The participants indicate the following positive characteristics of instructors: patients, respect for the interlocutor, empathy, flexibility in the choice of conversation topics, active listening, as well as focusing attention on their needs and expectations. During the interviews, all seniors emphasized the great importance of communication in their life and equated its lack to loneliness and isolation. Several seniors pointed to the fact that old age, as a natural phase in human life, is something that everyone will experience and, therefore, the society, especially young people, should expand their knowledge about communication with elderly persons.

The information provided in the analysed documents of the 'Feniks' Foundation for Safety indicates that prior to the project, each instructor participates in a 20-hours long training course entitled 'Interpersonal Communication with Seniors'. It is very important for organizers of projects addressed to seniors that each instructor must learn the phenomena and problems he or she may encounter when working with seniors in the area of communication, language, and speech. The purpose of this training course is to ensure professional communication with elderly persons. The Programme of the training course includes the basic tenets of the psycho-pedagogy of old age, the essence of communication, the principles, types and functions of communication, the communication barriers and interferences, active listening, the importance of an individual approach to each senior, as well as conflicts and methods of their resolution (Szczęsna, 2022a, 2023a).

Summary and recommendations

Our current knowledge about the ageing process is very broad. In recent years, this development phase became the subject of interest of many researchers. This is not surprising because almost every report or publication starts with the words 'the society is becoming older

worldwide'. Researchers in various sciences analyse the society of older people in an interdisciplinary manner. It is therefore regrettable that interpersonal communication, which plays a key role in our daily life and is a foundation of social interactions, is practically disregarded in research on old age. The research results presented herein indicate the importance of communication in seniors' life. Communication is essential in activation and activity of elderly persons. Active ageing involves the adoption of '... a proactive attitude to the preservation of health, physical and mental activity, work and volunteering, and engaging in family and social life' (Kilian, 2020). Activation and activity of elderly people are facilitated by participation in projects addressed to seniors. However, the actions undertaken on such projects cannot be effective without paying special attention to interpersonal communication. The social aspect should be studied more closely in addition to strictly medical issues associated with seniors' communication.

The recommendations formulated on the basis of the study discussed herein are as follows:

1. In order to build an effective interpersonal communication with seniors, it is necessary to increase the awareness of the understanding of individual experiences, specific needs, expectations and fears of seniors.
2. In order to build mutual trust and an open dialogue, the instructor conducting various activities must pay special attention to empathy, patience, engagement, and understanding when communicating with seniors. An emphatic approach allows entering the world of experiences and emotions of the elderly person, and patience allows building an atmosphere of mutual trust and strengthening the interpersonal relations. These very important social skills help seniors express their feelings and thoughts, and process the information they receive.
3. In order to give seniors a sense of appreciation and being listened to, which helps them openly express their desires and needs, the persons working with elderly persons should be taught active listening. This skill will help them recognize not only those needs that are stated explicitly, but also those hidden 'between the lines'.
4. The awareness of the persons working on projects addressed to seniors about the unique characteristics of interpersonal communication with seniors can be raised by organizing training on this topic. In view of the fact that communication is immensely important in the process of activity and activation of seniors, this demand should be regulated in legislation, and an obligation to attend such training should be introduced.
5. The awareness of the public about the importance of elderly people in the society and communication with them should be raised. Like any other social group, seniors should be able to be effective and full members of the society, to live safe and dignified life, free from isolation and discrimination. Only through proper communication can we fulfil all these demands.

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50 years of research on working memory¹

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Abstract: Exactly 50 years ago, the model of working memory proposed by Allan Baddeley and Graham Hitch (1974) fascinated academics and practitioners dealing with human cognition, and have permanently changed the landscape of memory research. Working memory is the ability of the human mind, that allows the creation and reception of communications, performing mental arithmetic, decision-making, and other complex cognitive activities, that require temporary storage of necessary information and its manipulation in order to perform current tasks (e.g. following the flow of a conversation). As such it is one of the most dynamically developing areas of research in cognitive psychology, cognitive science, neuropsychology, and the differential psychology (especially in the intellect diagnostics). The ongoing research dispute concerns many aspects of the working memory construct: its structure, functions, capacity limits, relationship with consciousness, long-term memory, attention, etc. (see Logie, Belletier et al., 2021). The solutions proposed by researchers are characterized by such great detail, that people who do not closely follow the literature on the subject, may have difficulty understanding their essence. The beginnings of this creative fuss date back to the proposals of Baddeley and Hitch (1974), who carefully analyzed the data on temporary memory and recognized it as a system composed of many cooperating components, that is, separate subsystems storing information in different formats (e.g. visual or auditory) and a superordinate subsystem managing the flow and use of the stored information. This article presents the context in which Baddeley and Hitch's (1974) multicomponent model of working memory was developed, as well as describes the milestones that marked the dynamic changes it underwent, and lists the research projects that prompted the refinement of the descriptions of the components within the model. Although an influential portion of the contemporary competing accounts of working memory abandon many of Baddeley's theses (Cowan, 2017; Oberauer, 2019), each of them follows the conceptual paths forged by this author and must clarify their positions on questions posed during the fifty-year journey of working memory research.

Keywords: Allan Baddeley, working memory, Multicomponent Model of Working Memory

1. The development of the concept of working memory

Without working memory, communication would not be possible. Both the deciphering of the sounds uttered by the sender and the encrypting of thoughts in the form of linguistic expressions by the recipient are preceded by this specific “work” of memory, which consists in storing and manipulating phonemes in such a way that they can be recalled in the right order in a moment and integrated with significant words and sentences containing the right meaning. Understanding and producing speech, following the flow of a conversation, weighing arguments, reasoning, maintaining ideas, mental arithmetic, making decisions and judgments – all this is done thanks to the human ability of working memory (also called

operational memory). Currently, working memory is one of the most popular research areas intensively developed in cognitive sciences and diagnostic practice (Logie et al., 2021). There are many definitions of this construct (see Cowan, 2017 for review), but the essence of each one refers to holding in the mind a small amount of information currently needed for use by cognitive processes – on standby (i.e., temporarily heightened state of availability) – to perform the current task. Critical defining features are the time-limited storage of information and the continuous processing of information so that it is available for use in thinking and acting (Cowan, 2017). This can be both verbal and visual information (e.g. shapes, colours, position, sequence of movements). However, this does not have to be conscious information. Working memory includes the conscious part of

¹ Article in polish language: https://www.stowarzyszeniefidesetratio.pl/fer/58P_Hara.pdf

the mind, but also memory processes that operate “in the background” of consciousness, inaccessible introspectively. It is therefore not identical with the concept of consciousness.

The concept of temporary memory was known before the creation of psychology in its present form. For example, Locke (1690/1955) in his reflections mentioned – alongside various properties of memory – contemplation, which allows one to view an idea for some time before it passes into the “storehouse of ideas” (today we would say: into long-term memory storage). Two centuries later, William James (1890) described the concept of primary memory to describe what appears as present in the mind, as opposed to what is stored in so-called secondary memory. Broadbent (1958), when describing the mechanisms of attention in various cognitive tasks, refers to temporary memory, giving it the name immediate memory. Nevertheless, the first systematic attempts to explain “working memory” appear in the work of Miller and colleagues (1960), who explore the phenomenon of chunking information into meaningful new units that facilitate the memorization of larger amounts of data. However, before the term working memory had time to settle in the minds of researchers, another important concept emerged, inspired by Broadbent’s thought. It was short-term memory placed in the multiple-store model of memory by Atkinson and Schiffrin (1968) as one of the storehouses related to cognitive control processes and at the same time serving as a link between the sensory memory and long-term memory stores. The influence of this model was so great that the division into long-term memory (LTM) and short-term memory (STM) has spread beyond the circle of researchers and experts. The terminology of multi-store models shaped the thinking about the processes storing information in the mind for decades to come, although there were alternative approaches to memory architecture that abandoned the rigid division into separate blocks and emphasized the homogeneity of the entire system (Craik, Lockhart, 1972).

The term “working memory” returned to scientific discussions exactly 50 years ago, after the famous publication by Alan Baddeley and Graham Hitch (1974) entitled “Working Memory”, describing temporary memory as a system composed of many components

and responsible not only for storing information (like short-term memory) but also for manipulating it (e.g. Baddeley, 2012). Simultaneously with the development of Baddeley and Hitch’s (1974) model, in which new components were added over the years and the scope of their functions was expanded, other theoretical approaches touching on the same part of cognition flourished. The most famous include: computational models of cognition, created in North America by researchers inspired by the concepts of Atkinson and Schiffrin (1968), e.g. ACT-R (adaptive character of thought; Anderson, 1996), SOAR (Newell, 1990), EPIC (executive-process interactive control; Meyer, Kieras, 1997), approaches exploring individual differences in working memory capacity (Daneman, Carpenter, 1980; Engle et al., 1999), or approaches that emphasize the role of already accumulated knowledge and skills in current information processing (Ericsson, Kintsch, 1995).

2. Development of Baddeley and Hitch’s Multicomponent Model of Working Memory

Baddeley and Hitch (1974) stated that, in the light of available research, working memory cannot be treated as a unitary mechanism. Further empirical evidence provided by researchers has consistently pointed to the fact that people handle information more efficiently when it is encoded in different formats (e.g., visual and auditory) than in the same format. The mechanism that allows this must be a multi-component system composed of many interacting elements. Otherwise it would not be possible for it to have several separate pools of resources corresponding to different (auditory vs visual) types of information. If we assume that information of a given type, stored in the same stores, competes for the same resources, then it should be difficult for the subjects to perform competitive tasks using similar stimulus material (e.g. visual), and they should have no problem coping with simultaneous tasks of different nature (one task with visual information, the other with auditory information). Such relationships were observed many times in studies conducted at that time (1974).

At the same time, the study of memory capacity limitations has become crucial for understanding the nature of working memory. A person cannot keep an infinite amount of information in his mind on an ongoing basis, nor can he manipulate it infinitely efficiently. The question about the nature of the limitation of working memory capacity is currently one of the most pressing and is addressed differently depending on the theoretical approach. In the model of Baddeley and Hitch (1974), this capacity limitation can be “bypassed”, for example, by the action of rehearsing the memorized information, that is refreshing it in working memory so that it does not degrade quickly (Baddeley, Hitch, 1974).

The exact composition of Baddeley and Hitch’s (1974) multicomponent model of working memory has evolved over the years, but it has always included components responsible for passive storage of various types of information and a superordinate component that controls the processing of information from these slave systems.

More than a decade after the first publication, Baddeley (1986) refined the description of the working memory model, assuming the separation of components passively storing verbal-phonological information from visual-spatial information. These are, respectively, the visuo-spatial sketchpad and the phonological loop (formerly known as: articulatory loop). Control over the stored information (mental representations) was exercised by the superior component, that is the central executive system, strongly related to attentional processes. The original version of Baddeley’s (1986) working memory model, therefore, contained three components (Baddeley, 1986, 1996).

The fourth component was added several years later (Baddeley, 2000), in response to criticism of the model that highlighted an important gap. Namely, there was no explanation of how working memory connects with long-term memory to draw on the knowledge stored therein. The answer to this problem was the so-called episodic buffer, which stores semantic information and associations regardless of the information format. Integrating information from other systems (storing visual

and auditory information) within the episodic buffer makes this component responsible for the temporary storage of coherent experiences.

J. Orzechowski (2012) believes that the main innovation that the scientific world owes to Baddeley is the insightful observation that the information storage function is necessary for the information processing function and that, therefore, both – although separate – should be designed into a coherent model of working memory.

3. The Phonological Loop

In the 1960s, a phenomenon was discovered that drew researchers’ attention to the influence of similarity of sounds on their memorization. In 1964, Conrad and Hull described the so-called acoustic similarity effect, showing that if written words intended to be memorized contain letters that sound similar in pronunciation (their sounds rhyme), they are more difficult to remember than lists of words with letters whose sounds do not rhyme. This is probably because sound similarity makes it difficult to store sounds in working memory as separate units. Similar conclusions were drawn by Baddeley (1966) in a study of similar-sounding words. It turned out that they are more difficult to recall from memory than words with different sounds, but the opposite phenomenon is observed when the subjects have a chance to remember the meaning of the words and use the similarity of meaning when remembering them (Baddeley, 1966b). The idea of a system for temporarily storing phonological information, separate from long-term memory, was born, as Baddeley (2012) recalls, after collecting the results from the above-mentioned studies.

The phonological loop is a component that continuously stores small amounts of information heard, that is, related to speech and other sounds. According to Baddeley (2007), it evolved primarily to enable language learning (Baddeley et al., 1998). The phonological loop consists of two parts: the phonological store and the articulatory rehearsal mechanism (or verbal rehearsal mechanism). The phonological store passively stores acoustic

memory traces for a short period of time. After approximately 2 seconds, memory traces decay. The articulatory rehearsal mechanism is the more active part of the loop because it prevents the disappearance of selected memory traces from the phonological store. It does this by mentally (i.e. silently; covert verbalisation) refreshing the stored sequence of sounds (words), as if reciting them in your mind. Any sound repeated in this way will fade out again unless it is refreshed again. In this way, the articulatory rehearsal mechanism increases the capacity of the phonological loop in working memory. Its second function, according to Baddeley (1986), is the conversion of visual information into speech (verbal recoding), which involves assigning verbal labels to visual information, e.g. a picture of a cat (or the word “CAT”) may be given the verbal label “cat”. This transformation from a visual to a verbal format makes it easier to remember visual information because its memory trace can then be maintained in a phonological loop (unlike the image of a cat, the sound of the word “cat” can be iterated in the mind by silently repeating it). Therefore, visual information can also enter the phonological loop, provided that an effort is made to label (recode) this information into the appropriate (phonological) format (Baddeley, 1986).

Research demonstrating the existence of an articulatory rehearsal mechanism led to the discovery of a phenomenon called the word length effect (Baddeley et al., 1975). Longer words (i.e. those containing more syllables) are more difficult to recall from memory than shorter words. This is probably because silently repeating longer words in your mind takes longer, so it is more difficult to prevent them from disappearing into the phonological loop (fewer such words can fit in 2 seconds). This short storage time of the phonological loop also explains why subjects who have a faster speaking rate (and therefore mentally repeat memorized objects faster) are able to recall more words from memory than people with a slower speaking rate. In fact, research shows that people remember as much as they can read in exactly 1.8 seconds (Baddeley et al., 1975).

Since the articulatory rehearsal mechanism complicates research (the researcher can never be sure whether and which subjects use silent repetition, bypassing the limitations of working memory capacity), a procedure has been developed to block it, and it is called the articulatory suppression technique. In this procedure, subjects are instructed to say aloud various unrelated words during the experiment (e.g., one two three, one two three... etc.). Such an additional task is simple enough not to burden working memory too much, but at the same time it occupies the resources of the articulatory loop mechanism to such an extent that it cannot be used to refresh the memory trace of the test stimuli (Baddeley et al., 1984; Murray, 1968).

4. The Visuo-spatial sketchpad

The inspiration for designing a separate component processing visual information (including spatial information) came from studies on the persistence of the memory trace of a point located on a line (Posner, Konick, 1966) or in space (Dale, 1973), which persisted for up to half a minute if it was not interrupted by a competing task. To test this phenomenon, while eliminating the possibility that the memory trace was supported by the phonological loop (by naming objects), Phillips and Baddeley (1971) measured the quality of memory recall on various (randomly half-filled) 5x5 matrices, showing a deterioration in performance as the seconds passed. The Phillips and Baddeley (1971) matrices, in a modified version, were interestingly used by Della Sala et al. (1999), who compared the results concerning their memorization with the results concerning the memorization of spatial stimuli in the classic clinical Corsi blocks test. It has been found that the level of performance on both tests differs in the same subjects and that the level of performance on spatial information tasks and visual information tasks deteriorates if subjects have to perform competing information processing tasks of the same nature (Baddeley, 2012; Della Sala et al., 1999).

In Baddeley and Hitch's (1974) model of working memory, the component that stores visual and spatial information is the visuo-spatial sketchpad (Baddeley, Hitch, 1974; Baddeley, 1986). Initially, Baddeley imagined this component as being homogeneous, but the research of his colleague Robert Logie, who was fascinated by the phenomena of visual imagery and mnemonics, convinced him to change his mind (Baddeley, 2012). Logie (1986, 1995) proved that it is worth distinguishing two mechanisms in the structure of the sketchbook: the visual cache and the inner scribe. The visual cache passively stores information about the appearance of objects (color, shape, pattern). The inner scribe, on the other hand, plays a more active role, being responsible for creating images and planning sequences of movements. Both mechanisms work together because the inner scribe uses information stored in the visual cache. Many subsequent studies, also involving brain neuroimaging, confirmed this distinct functioning of visual and spatial information in working memory (Klauer, Zhao, 2004; Smith, Jonides, 1997). Some researchers go even further, arguing that it would make sense to isolate a third mechanism responsible for storing kinesthetic information (e.g. body movements during dancing; Smyth, Pendleton, 1990), and Baddeley himself also points to the ambiguity of the status of tactile information in working memory (Baddeley, 2012).

The durability of memory traces in the sketchbook is low, but there are no consistent answers to the question of how long visuospatial information persists in working memory before it fades away. Researchers disagree on whether and how the sketchbook functions to refresh (repeat) information so as to prevent degradation of the memory trace. Logie (1995, 2011) attributes this ability to the inner scribe.

5. The Episodic Buffer

The episodic buffer was the last component added to the working memory model (Baddeley, 2000). Like the previous stores of visuospatial and phonological information, the episodic buffer stores

information for a short time in order to perform the current task. Unlike the other two stores, however, the buffer does not specialize in one type of stored information. It is multimodal, meaning that the information it stores comes from different senses (e.g., the appearance of a room, the sounds of conversation, smells, gestures) and is linked together to create coherent representations of entire events (e.g., the situation of a romantic dinner). To achieve such integration, the buffer works closely with the parent component – the central executive system. (Baddeley, 2000).

There are three main channels through which information can enter the episodic buffer to create such complex and meaningfully coherent representations of events. The first are the components of working memory mentioned earlier: the visuo-spatial sketchpad and the phonological loop. The second is simply perception, that is, data delivered directly from the senses. The third source is long-term memory (Baddeley, 2007). Because of this third source, the episodic buffer is a bridge between the central executive system and long-term memory and supplements the information needed for the functioning of the sketchpad and loops. The buffer enables a mind to use previously accumulated knowledge to solve current tasks.

The episodic buffer is limited in capacity by the number of events (episodes) it can store simultaneously, with information that is highly related and consistent taking up less buffer resources. Working memory's access to long-term memory, provided by the episodic buffer, facilitates the chunking of remembered items, thereby bypassing the capacity limits of working memory. This is confirmed by the results of numerous studies, including those on: remembering meaningful vs. meaningless words (Hulme et al., 1991).

Interestingly, one of the followers of Baddeley's thought – Robert Logie – while retaining the idea of a multi-component model of working memory, proposes abandoning the episodic buffer, the function of which is to be fulfilled by interactions between the remaining components (Logie et al. 2021).

6. The Central Executive

The central executive (CE) system is Baddeley's (1986) idea to capture the most complex aspects of human cognition, which are the managerial processes controlling information processing in the mind. Initially, the modest and vague descriptions of this component attributed to it responsibility primarily for coordinating the remaining – slave components – storing visual and auditory information. In his 1986 publication, Baddeley provided the first detailed description of the central executive system, explicitly using Norman and Shallice's (1986) concept of the supervisory attentional system (SAS) as a prototype. Since then, the exploration of the main functions of this most complex component of working memory has been inextricably linked to attentional processes, the role of which in various situations is to properly select important information and inhibit unnecessary information.

Ultimately, Baddeley (1996) distinguished four functions of the central executive system. The first of them is focus of attention, which deteriorates with the complexity of the task performed by the subjects. The second involves divided attention (multitasking), tested in studies involving people suffering from Alzheimer's disease, who, compared to a group of healthy people, achieved worse results in dual-task performance. The third function of the central executive system examined using the tasks switching procedure is attentional shifting. Later, with the emergence of the episodic buffer as a third system storing information in working memory, the central executive system also gained a function that linked working memory to long-term memory, involving the retrieval of necessary information from long-term memory and its manipulation (Baddeley, 1996, 2000, 2007, 2012).

Baddeley's approach to executive functions is in opposition to neuropsychological approaches that attempt to understand them by examining the functions of the frontal lobes (np. Bor i in., 2003). Baddeley opposes this, warning against the risks of confusing neuroanatomical concepts with functional explanations of psychological phenomena. According to him, we should use the discoveries provided by

clinical trials, but we should not define cognitive functions using brain structures (Baddeley, 1996). Baddeley's approach can be described as psychometric, that is, related to the study of individual differences, although different from traditional approaches of this type. Traditional psychometric approaches dealing with executive functions refer to the concept of intelligence and see the possibility of monitoring the work of executive processes (or the superior executive processor, which could correspond to the central executive system as part of working memory) in the measurement of intelligence. The emphasis on measurement, which is the essence of psychometric approaches, makes the type and compilation of test items measuring different sets of cognitive processes a key issue for this approach (see section: The Broader Context).

It remains an open debate whether the central executive system is (as Baddeley proposes) a homogeneous system with different functions that, like a homunculus – a metaphorical inhabitant of the mind – manages information temporarily stored in other subsystems (e.g. Attneave, 1961; Baddeley, 1998), or rather a bundle of various independent but cooperating control processes. Particularly noteworthy in this debate is contemporary research on executive functions, which is a construct that encompasses various types of distinct abilities: planning future actions, shifting attention, inhibition, updating information in working memory, generating new information, and monitoring the progress of goal achievement (e.g. Miyake et al., 2000).

The new version of the multicomponent model of working memory proposed by Logie, Belletier, and Doherty (2021) presents a different view of the nature of executive functions. These authors maintain the idea of components that temporarily store domain-specific information (with the exception of the episodic buffer), but they abandon the central executive system altogether. According to them, control processes are the result of the interactions of individual components performing their functions, so the central executive system is rather a property that emerges from numerous simultaneous interactions of subsystems storing and processing information (Logie, Belletier et al., 2021).

7. The Broader Contexts

The Baddeley and Hitch model of working memory, first described in 1974, has been used for decades both as a basis for scientific research on working memory and for research on individual differences in the diagnostic process (e.g. measurement of working memory in the intelligence scales). Meanwhile, in the 1990s, competing, homogeneous models of working memory began to emerge, challenging the central thesis of Baddeley and Hitch's (1974) model of multicomponent nature. The most popular homogeneous models are the activation models of Cowan (1998, 2001, 2017) and Oberauer (2002, 2011), which present working memory as an activated (by attentional processes) part of long-term memory and do not distinguish separate components of information storage.

The conflict regarding the homogeneity vs. multicomponent nature of the working memory system is reflected in diagnostic practice, especially at the stage of designing diagnostic tools. If human temporary memory is composed of multiple subsystems, then test tasks should be able to measure the performance of each of them separately. However, in healthy adults it is difficult to examine the separate components because they function in an integrated manner, giving the impression of a unified system. Logie, Belleter and Doherty (2021) note that when it comes to cognitive processes, there are no tasks that measure separate constructs. While performing test tasks, the subjects

use the mental resources they consider necessary. The same is true for working memory – if it is composed of multiple components, it is difficult to check which component the person being tested is using to complete the task. The same participant may even use different resources in different trials within one test (e.g. shapes or colours on the screen may be stored in visual, verbal or semantic association form).

Since the revival of the concept of working memory by Baddeley and Hitch (1974), many different approaches to it have emerged, but at the same time researchers are publishing an increasing number of attempts to synthesize findings from different academic centers (e.g., Logie, Camos, et al., 2021; Oberauer et al., 2018). The challenges facing researchers integrating the vast knowledge accumulated over 50 years on working memory revolve around the following questions: (1) What is the relationship of the structure of working memory to attentional processes, control processes, long-term memory and consciousness? (2) What functions does working memory perform in the mind and what developmental changes are they subject to? (3) How to understand the limitations of working memory and, consequently, how to effectively study differences between people in this regard? And finally (4) can we say about the neurological and neuropsychological correlates of working memory. If the synthesis of half a century of data on working memory is fruitful, these promise to be interesting times for both researchers and diagnosticians of human cognition.

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Managing the relationship with the patient and his family in the process of coordinated and personalized treatment¹

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Abstract: The article presents the challenges that primary health care will face in the coming years, especially from the perspective of coordinated and personalized medicine. In personalized treatment, where cooperation between the doctor and the patient is long-term and regular, apart from medical issues, the key issue seems to be the relationship not only with the patient, but also the involvement of the immediate social environment in the support process. Cooperation with the family makes it easier for the patient to understand the individual steps of the therapy, strengthens the maintenance of motivation for treatment, or compliance with established actions, therefore, when planning the medical therapy process, the doctor should take into account the needs of not only the patient, but also his family.

Keywords: coordinated medicine, personalized medicine, doctor-patient relationship, doctor-patient-family relationship, chronic disease

1. Coordinated and personalized medicine in primary health care

The World Health Organization (WHO) defines primary health care (PHC) as a fundamental element of the health care system, necessary for health prevention and treatment of diseases in the world (Bem, 2011). The primary health care facility is the first and main point of contact between the patient and health care staff, where comprehensive and coordinated health services are provided. (NFZ, 2016).

In Poland, primary health care facilities are the most popular, widely available place of treatment. In 2014, 148 million medical services were provided in primary health care facilities, and in 2017, almost 170 million services were provided, out of 291 million of all medical services provided in Poland. This means that almost 60% of medical services in Poland are provided in primary health care centers (Sikorski, Mędrzycki, 2021), where medical assistance can be used by any person who is insured (mandatorily or voluntarily) or who meets one of the conditions

specified in the Act of August 27 2004 About health care services financed from public funds. People who are uninsured but entitled to use primary health care services include minors, pregnant women, women giving birth and postpartum, and people who have a Pole's card (Dz. U. 2004 Nr 210 poz. 2135).

A properly functioning network of primary health care facilities seems to be the most effective way to treat a large number of patients, with a favorable balance between treatment effects and treatment costs (Bem, 2011). In the perspective of the development of primary health care, the key issue is to improve the quality of treatment while properly economizing the health care system (Skawińska, 2009). The answer to the need to balance the costs of primary health care activities is the development of coordinated care, in which the primary care physician determines the necessary patient treatment process, coordinated with specialists in other fields (Sikorski, 2018).

In the coming years, it seems crucial to adapt the services provided in primary health care to the emerging challenges related to the aging society

¹ Article in polish language: https://www.stowarzyszeniefidesetratio.pl/fer/58P_Barl.pdf

and the rapidly increasing number of people with chronic diseases. The analysis of the medical, psychological, social and spiritual concept of chronic disease shows specific mechanisms of how patients struggle with the critical events of this stressful disease (Kurpas, Hans-Wytrychowska, Mroczek, 2011; Ziarko, 2014). A chronic disease lasts no less than a year, which is why the patient requires regular contact with a primary care physician, but also with other health care specialists: employees conducting diagnostic tests, pharmacists and physiotherapists. Chronic diseases are becoming the main cause of death or disability of citizens of highly industrialized countries (Gębska-Kuczerowska, 2023; Kurpas, Hans-Wytrychowska, Mroczek, 2011), that is why change management in health care is so important. Important needs include not only the coordination of the treatment process, but also inter-center and inter-professional cooperation between specialists (K. Barłóg, M. Barłóg, 2022), but also proper health prevention, based on patient education and effective, early diagnosis of diseases (Garbarczyk, 2021; Magnuszewska-Otulak, 2013). In the coming years, coordinated care should develop into personalized treatment, i.e. treatment tailored to the individual needs of the patient (K. Barłóg, M. Barłóg, 2022; Gaciong, 2009; 2016; Jain, 2002; Kaleta, 2016; Wysocki, Handschuh, Mackiewicz, 2009). Universal forms of treatment may be ineffective in many cases, which is why it is so important to implement personalized treatment. For example, a standard drug is effective for about 40-60% of patients, and another 15% experience side effects (K. Barłóg, M. Barłóg, 2022; Gaciong, 2016), moreover, 12% of patients over 70 years of age are admitted to hospital as a result of side effects of the drugs used (Kurpas, Hans-Wytrychowska, Mroczek, 2011).

Individualization of therapy and its adaptation to the patient's needs requires a wide range of competences of doctors of various specialties. Specialists emphasize the need to develop genetic testing methodology and protect sensitive data (Chan, Ginsburg, 2011; Hamburg, Collins, 2010; Gaciong, 2016; Schork, 2015), developing skills in the use of new technologies (Abul-Husn, Kenny, 2019), as well as in the analysis of large data sets (Cirillo, Valencia,

2019; Suwinski, Ong, Ling, Poh, Khan, Ong, 2019; Senn, 2018). It seems to be a priority to develop not only hard skills in health care specialists, but also soft skills, including those related to building relationships with patients and interprofessional communication (K. Barłóg, M. Barłóg, 2022). It also seems important to improve skills in cooperation with the patient's family, because in the treatment of chronic diseases, the specialist should take into account the motivational and emotional aspects of both the patient and his family, which directly influence the effects of the therapy process (K. Barłóg, M. Barłóg, 2022; Małecki, 2018; Małecki, Nowina Konopka, 2018; Nowakowska et al., 2009; Nowina Konopka, 2016). Despite the increasing knowledge regarding the general principles of effective communication between doctors and patients and families, there are specific needs of patients with various diseases, therefore, depending on the doctor's specialty and the patient's diagnosis, some principles of cooperation and communication may differ (Gaciong, 2015; Jarema, 2015; Kupryś-Lipińska, Kuna, 2015; Małecka-Panas, Mokrowiecka, 2015; Sewerynek, Stuss, 2015; Stelmach, Jerzyńska, 2015; Stępińska, 2015; Tlustochowicz, 2015; Walicka, Franek, 2015; Zaleska-Żmijewska, Szafflik, 2015).

2. Consequences of ineffective communication between health care professionals and patients and his family

Communication is characterized by interaction and exchange of information between parties (Desouza, Evaristo, 2006, Drela, 2007, Muszyńska, 2010). It is a dynamic process in which information is transmitted by one party and received and interpreted by the other party, as well as feedback, i.e. reaction. Information is transmitted in various ways, including through verbal and non-verbal communication. Communication is accompanied by various noises, i.e. barriers that hinder the interaction of participants (Frączek, 2012; Nęcki, 2000, Pease, Pease, 2019). Importantly, communication performs several important functions: informational, educational, strengthening

attitudes and values, integration (building bonds between interlocutors), mobilization (motivation), and entertainment. Communication is therefore one of the fundamental social processes (Frączek, 2012).

The ability of a doctor to communicate properly with a patient is a basic element of medical art, which determines the canons of medical professionalism. The patient's consent to the proposed therapy, cooperation and involvement in the process of restoring health largely depend on the communication skills of the doctor or therapist. A doctor's communication competences are most often indicated by patients as desirable, right after the doctor's professional knowledge. In a situation of increasing diagnostic possibilities and more and more modern treatment techniques, people forget that, to a large extent, professional doctor-patient communication significantly affects the pace of the patient's recovery. Empathic communication in the event of illness is a valuable therapeutic tool (Sulkowska, Milewski, Kaczorowska-Bray, 2018; Świrydowicz, 2011).

Communicating with the patient is one of the doctor's basic tasks and therapeutic tools. Through communication, the doctor receives information about the patient's health problem, can explain the treatment process, provide recommendations and respond to emotional needs, among others, by listening to and understanding the patient's emerging concerns (Mendyk, Kowalik, Kuczyński, Nurzyńska-Flak, 2016). Research shows that an effective communication process between the doctor and the patient helps reduce the patient's level of anxiety before treatment, increases the likelihood of the doctor obtaining reliable information about the symptoms of the disease, obtains common expectations of the doctor and the patient regarding treatment, increases the patient's motivation for treatment, and increases satisfaction with progress. therapy, reducing the number of conflicts between doctor and patient (Chen, Tang, Guo, 2022; Moslehpour, Shalehah, Rahman, Lin, 2022; Tavakoly, Behzhad, Ferns, Peyman, 2020; Zaborowski, 2019).

The analysis of research results also leads to the conclusion that the doctor should provide the patient with a sense of security and leave hope that health problems will be positively solved (Sulkowska,

Milewski, Kaczorowska-Bray, 2018). The communication skills of the doctor or therapist result in a good relationship with the patient, which translates into an increase in the patient's confidence in the proposed therapy and, consequently, an increase in the effectiveness of the treatment (Bankiewicz-Nakielska, Walkiewicz, Tyszkiewicz-Bandur, Karakiewicz, 2017).

Unfortunately, the level of doctor-patient communication seems to be one of the basic elements of the competence gap in Polish health care (K. Barłóg, M. Barłóg, 2022; NFZ, 2016). Among the most common communication difficulties with doctors, patients mention: lack of involvement and explanation of the treatment plan, or lack of interest in the patient's emotional state. Patients also note the low level of interpersonal competence of doctors, in terms of the way they conduct conversations and maintain the appropriate distance (communication devoid of polite forms or excessively formal). Patients also indicate that health care professionals have little control over non-verbal communication (including: lack of eye contact, or inappropriate speaking pace). Unfortunately, due to the short time allocated for the visit, doctors often interrupt patients' statements or limit the conversation to a minimum (Sulkowska, Milewski, Kaczorowska-Bray, 2018).

Importantly, the issue of feeling supported is equally rarely discussed from the immediate social environment, i.e. from the patient's family. If the patient is a child, it is completely natural to involve the family in the treatment process, because the specialist builds relationships both with the child and with the parents who make decisions about the minors' health (Ladd, Forman, 2011).

The perspective of cooperation with the family of an adult patient has been changing in recent years. Patients' self-awareness is increasing, and thus the level of their expectations. Patients express the need to participate in decisions regarding treatment, they want to have a sense of decision-making, especially about their own health. The patient wants to feel that the doctor is actually involved in the treatment process, therefore the ability to build an appropriate doctor-patient relationship and professional communication is one of the key tasks in educating health care specialists and coordinating the treatment process (Oleszczyk, 2014).

This thesis seems to be confirmed by data showing that 75% of complaints submitted by patients to the National Health Fund are related to the unsatisfactory quality of the doctor-patient relationship. Improper relationships between a doctor and a patient and his family are one of the basic (along with medical malpractice) iatrogenic errors, i.e. actions and behavior of medical staff that harm the health of the patient, resulting in a worsening of the underlying disease or an extension of the treatment time (Włoszczak-Szubzda, Jarosz, 2012). The described difficulties concern not only Polish medicine, which is why communication training programs for students and health care specialists are increasingly being introduced in highly developed countries (Donisi et al., 2022; Sharma et al., 2021; Taff et al., 2023).

3. Benefits resulting from a partnership between the doctor and the patient and his family

The literature on the subject distinguishes 4 basic models of doctor-patient relationships: 1. one-way model – authoritarian, 2. two-way model – paternalistic, 3. two-way – cooperative model, 4. systemic – partnership model (Jarosz, Kawczyńska-Butrym, Włoszczak-Szubzda, 2012; Nowina Konopka 2016). In one-way communication, the relationship between the doctor and the patient is characterized by

great emotional distance, the specialist focuses only on providing medical information. The remaining models take into account the interaction between a health care specialist and a patient. In the paternalistic model, the relationship is authoritarian in nature, the doctor fully supervises the communication process. In the cooperative model, the doctor and the patient are in a partnership relationship, and the exchange of messages and cooperation also concerns the emotional sphere and the role of the family in the therapy process. In the system-partnership model, communication takes place in the doctor-patient-family triad. In this way, key variables related to the treatment process can be monitored, such as: conflicts in the family, the threat of family breakdown, or sudden changes in the family life cycle (Jarosz, Kawczyńska-Butrym, Włoszczak-Szubzda, 2012; Nowina Konopka 2016).

Regardless of the adopted relationship model, there are several basic communication barriers in the doctor-patient relationship. The basic ones include the patient’s poor health and well-being, high level of anxiety or negative emotions, and some personality traits. Low self-esteem may also be a barrier (including the patient’s indecision, failure to ask for a more detailed explanation or clarification of information that is unclear to the patient) and a low level of cognitive abilities, which translates into a lack of understanding of the doctor’s statements (K. Barłóg, M. Barłóg, 2022; Chapman, Roberts, Duberstein,

Table 1 Benefits of proper doctor-patient-family communication

| Benefits of the doctor | Benefits of the patient | Benefits of the patient’s family |
|---|---|---|
| Reducing the patient’s emotional tension, which makes it easier to obtain information crucial for treatment | Feeling that your doctor is meeting your needs | Building a long-term relationship with the doctor, a sense of continuity of cooperation |
| Less patient resistance to therapy | The level of perceived security increases | The level of perceived security in the family increases |
| Building trust helps introduce positive changes in the patient’s functioning | Sense of control and decision-making – the doctor informs about all issues related to the disease | A feeling of comprehensive care |
| The patient’s motivation for treatment increases | | |
| Fewer patient complaints and greater patient satisfaction | A sense of relationship with the doctor and of being listened to and understood | The doctor can base the diagnosis based on a broader social, cultural and psychological context, which contributes to the accuracy of treatment |
| The doctor’s satisfaction and self-esteem increases | | |

Source: Włoszczak-Szubzda, Jarosz, 2012, p.210

2011; Sulkowska, Milewski, Kaczorowska-Bray, 2018). Some of these barriers can be reduced by building a partnership with the patient and involving family members. The patient's loved ones are the primary source of support for the patient, both emotional and substantive (they control the implementation of medical recommendations, motivate, and explain the rules). Moreover, when a doctor provides information to a patient in the presence of his family, the likelihood increases remembering them and then following medical recommendations (Chmielewska, Kostrzewa-Itrych, Kostrzewa, Hermanowski, 2017; Gaciong, Kardas, 2015; Kardas, 2014; Sobczak, 2019). It is worth paying attention to the benefits of proper doctor-patient- family communication presented by Włoszczak-Szubzda and Jarosz (2012, p. 210).

Involving the patient's family in the treatment process may also be an important way to eliminate fear and resistance before surgery or procedures, because the support of loved ones is one of the basic resources in coping with stress and illness (Kadłubowska, Kózka, 2014). It is worth noting that cooperation both with the patient and his family is also important because the patient and family often have different requirements towards health care specialists (Wysocka, Frydrych, Klimkiewicz, Jarosz, Pasierski, 2021). Patients report the need for closeness and support from their family, and their relatives often focus only on medical issues. A doctor who is professionally involved in the patient's treatment process, seeing the broader context of the recovery process, can regulate the level of expectations of both parties and develop consistent actions for the patient and his or her loved ones.

Summary

Presented assumptions regarding the inclusion of the family in the patient's treatment process are significantly related to the theory of patient-centered

care. The foundation of theory is the assumption that a very important element of the treatment process is strengthening the patient's subjectivity, including: by listening to his opinions and needs, including emotional ones (Bankiewicz-Nakielska, Walkiewicz, Tyszkiewicz-Bandur, Karakiewicz, 2017). Including the family in the process of coordinated or personalized treatment seems to be one of the important steps towards meeting the patient's psychological needs, necessary for an effective recovery process. However, the issues discussed require empirical verification, including: in terms of: practical possibilities of including the family in the therapy process, issues of personal data protection, interprofessional cooperation between specialists, the level of interpersonal competences of specialists, systemic changes in health care (including regarding the doctor's time for a single consultation with the patient and his family).

The issue of systemic changes in health care seems to be particularly important, regarding communication between health care specialists working in various facilities and those conducting the patient's therapy process. Close cooperation of all specialists involved in the treatment process, not only doctors of various specialties, but also and pharmacists, or medical or pharmaceutical companies supplying medicines, seems necessary (K. Barłóg, M. Barłóg, 2022). Good inter-center and inter-professional communication, exchange of experiences and conducting coherent activities can maximize the effectiveness of therapy. At the same time, consistent interaction of specialists with the patient and his family can strengthen the message and reduce the effect of the first impression (Aronson, Wilson, Akert, 1997). A doctor who occasionally meets with the family may have an incorrect image of it, while several specialists cooperating with each other can observe the actual dependencies in the patient's family system and effectively include them in the treatment process.

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Suicidal thoughts and self-destructive tendencies among adolescents¹

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Abstract: One must not ignore or underestimate it when adolescents say that they feel like a burden to those around them or that their life has no meaning. Suicidal thoughts in young people can be a signal of a threat to health or life or of a weakened mental condition. Increasing awareness of the frequent thoughts of giving up and the experience of a lack of meaning in life, characteristic of adolescents, helps to develop standards and preventive strategies in the field of mental health care. The article is an attempt to define terms related to suicide, data regarding the magnitude of the phenomenon among young people and discuss the causes of self-harm and suicide. It is also a reference to the approach of dialectical behaviour therapy (DBT), which considers, for example, emotional dysregulation and suicidal tendencies as a transdiagnostic problem. The characteristics of the transactional model in DBT emphasise that what is most important for a favourable prognosis is the provision of adequate support from the close environment, especially parents and professionals. Suicide prevention among children and adolescents is possible through scientific conferences, suicidological research and preventive programmes. Multidisciplinary cooperation to prevent suicidal intentions during childhood and adolescence is essential. In conclusion, as far as working with patients with emotional dysregulation and suicidal tendencies is concerned, the guiding motto of DBT should be stressed, which is to shape “a life worth living.”

Keywords: adolescents, dialectical behaviour therapy (DBT), family, self-destruction, suicidal thoughts.

Introduction

Adolescents saying that they feel like a burden to those around them or have no meaning in life must not be ignored or disregarded. It can be a signal of a threat to health or life or of a weakened mental state. The common occurrence of suicidal and self-destructive tendencies in adolescence contradicts the developmental tasks of that period when the entire life opens up as the most important assignment and value to be fulfilled (Śledzianowski, 2017). For many young people, that stage of life is a period of “storm and stress” due to the rapid changes occurring while they grow up (J.J. McWhirter, B.T. McWhirter, A.M. McWhirter, E.H. McWhirter, 2001).

1. Defining terms

At the outset, it is important to note that not all suicidal thoughts lead to suicide attempts or suicide. When dealing with a young person reporting suicidal thoughts, it is advisable to use common sense. At the very beginning, a distinction should be made between concepts related to suicide, but of greater or lesser importance for the assessment of suicide risk.

Thoughts of resignation mean fantasies or wishes for the loss of life, usually related to a long-term frustrating personal or medical situation. A teenager having such thoughts may say, for example, “life has

1 Article in polish language: https://www.stowarzyszeniefidesetratio.pl/fer/58P_Fedo.pdf

The Transactional Model of Emotion Dysregulation

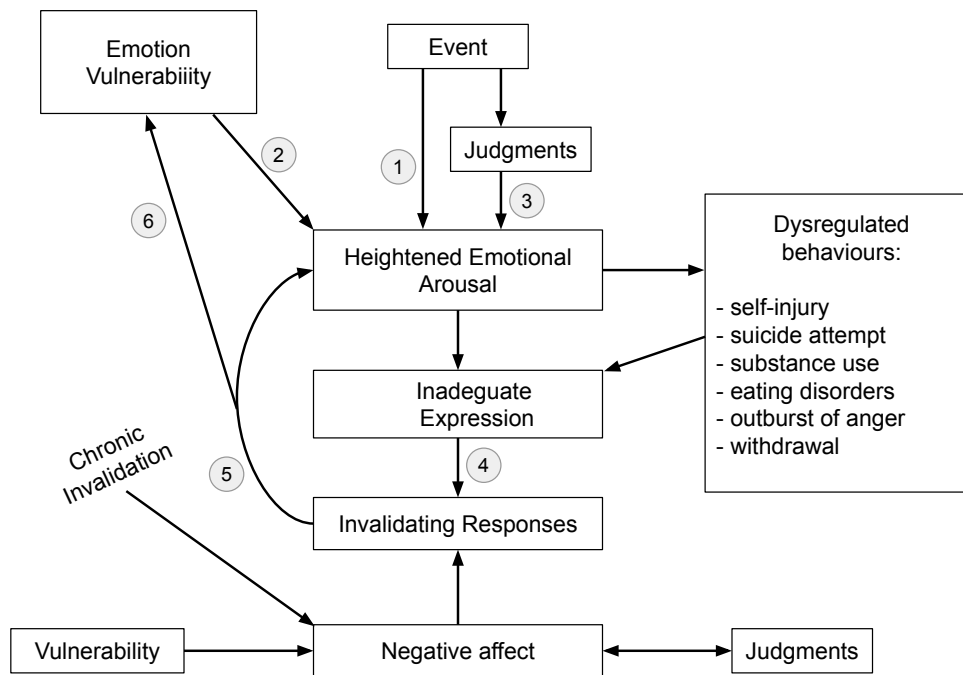


Figure 1. The transactional model of emotion dysregulation. Source: Alan Fruzzetti, 2024

no meaning”, “it would be better if I didn’t exist...”, “I wish I could cease to exist...” or “I wish I didn’t have to wake up again...” (Janas-Kozik, Kozera, 2021).

Suicidal thoughts – a psychopathological symptom involving the entire spectrum of deliberations and fantasies about suicide (without actual intent to commit it). In some cases, it may entail suicidal intent and impulses to deprive oneself of life (Janas-Kozik, Kozera, 2021; Holka-Pokorska, 2016).

Parasuicidal behaviour (pseudo-suicide, para-suicide) – acts committed by a young person against themselves that did not result in death, but were deliberate. Deliberate self-harm is a term similar to parasuicidal behaviour (Holka-Pokorska, 2016; Linehan, 2007; Zorraquino, 2002).

Suicidal behaviour – preparing and talking about specific suicide plans, attempting or committing suicide (Holka-Pokorska, 2016).

There is also the presuicidal syndrome – a set of symptoms that, despite various motivations, affect approximately 80% of people who attempt suicide. It consists of three elements: 1) narrowing of the areas of functioning and perception of reality, 2)

self-aggression – directing accumulated anger towards oneself, and 3) conviction that suicide is the only solution to the situation (Chatizow, 2018; Janas-Kozik, Kozera, 2021).

Any situation of danger associated with the appearance of suicidal thoughts confronts professionals with the challenging task of conducting a health assessment and an accurate differential diagnosis. The clinical examination is supported by the suicide risk assessment algorithm and screening tools (Pettit, Buitron, Green, 2018; Szostakiewicz, 2020; Szostakiewicz, 2022). The concept of a continuum of suicidal behaviour – from thoughts through attempts to commitment – is widely recognised (Verduyn, Rogers, Wood, 2022).

In health care, the risk of attempting suicide is treated as a life threat. Frequent suicidal thoughts, suicidal tendencies and a declared desire to commit suicide are grounds for taking a patient to a psychiatric hospital without their consent or the consent of their legal guardian, where they can be examined by a physician – a psychiatrist (Holka-Pokorska, 2016; Szostakiewicz, 2020; Dz. U. /Journal of Laws/ 1994

No. 111 item 535). According to the standards of professional conduct of physicians-psychiatrists, psychologists and psychotherapists, during the examination of the mental state of a patient, it is necessary to assess the risk of suicide (Szostakiewicz, 2022).

According to the ICD-10 classification, still in force in Poland, and the ICD-11, gradually implemented, neither self-destructive tendencies, suicidal tendencies nor suicide constitute a separate nosological unit. Instead, they are perceived as symptoms of various health problems. The focus is on identifying causal factors, for example, depressive disorder, ADHD, PTSD, abnormal personality development, domestic or peer violence etc. (Szostakiewicz, 2020). Dialectical behaviour therapy also emphasises the transdiagnostic nature of, among other things, suicidal tendencies (Figure 1) (A. Fruzzetti, 2024).

In the latest version of the US Diagnostic and Statistical Manual of Mental Disorders V Edition (DSM-5) classification, new, separate diagnoses can be found: *suicidal behaviour disorder* (SBD) and *non-suicidal self-injury* (NSSI). In the case of NSSI, the purpose of interventions is different (to relieve tension) and less life-threatening methods are used (Janas-Kozik, Kozera, 2021).

Advocates of treating suicidal behaviour as a separate disease entity justify their position, among other things, by referring to facilitating research to better understand the suicide phenomenon. Opponents of treating suicidal behaviour separately within the system of classification of mental disorders argue that although suicidal thoughts, intentions and attempts usually appear in connection with mental illnesses, medicine alone is unable to deal with them (Ziółkowska, 2016).

2. Scale of the phenomenon

Suicidal thoughts in adolescence are a common symptom, affecting several% of teenagers. At the same time, the number of suicide attempts is much higher than the number of actual suicides. It is estimated that in the teenage group, the ratio may even be as high as 100:1 (Szostakiewicz, 2020).

The discovery of the bodies of missing girls on 28 February 2015, aged 15 and 17, who had committed suicide in the forest near Jasło, caused a wide social resonance. In connection with that tragic finding, attention was drawn to the statistical increase in the cases of pre-suicidal syndrome in Poland (Śledzianowski, 2017). The dynamics of suicide attempts in the 13–18 age group are variable. In 2015, 469 (114 fatal) suicide attempts were recorded, in 2016 – 466 (101 fatal), in 2017 – 702 (115 fatal), in 2018 – 746 (92 fatal) and in 2019 – 905 (94 fatal) (Omeljaniuk, 2021).

The data collected by the National Police Headquarters since 2020 show an increasing number of suicide attempts in the 13–18 age group. For example, 814 suicide attempts were recorded in 2020, 1,411 in 2021, 2,008 in 2022, and 2,054 in 2023. In 2023, that age group ranked first in terms of the number of suicide attempts. Of those, 138 attempts ended in death. Young people between the ages of 19 and 24 came second (1,736 suicide attempts, 304 fatal). The third place was occupied by adults at the age of 35–39, with 1,582 suicide attempts including 534 fatal (National Police Headquarters reports). Since 2019, the number of suicide attempts ending in death has shown an upward trend. It is believed that the lockdown may have intensified the phenomenon of suicides among older youth (Omeljaniuk, 2021). In 2023, there was an 8% decrease in deaths due to suicide (138) among young people at the age of 13-18 compared to 2022 (150 fatal) (Witkowska, Kicińska, Palma, Łuba, 2024).

At the same time, research reports show that there are gender differences when it comes to self-harming tendencies. In Poland and most regions of the world, girls and young women are more likely to undertake suicide attempts, while fatal suicide attempts are more common among boys and young men (Holka-Pokorska, 2016; Ivey-Stephenson et al., 2022; Szostakiewicz, 2020).

Taking into account the correct observation that there are two non-overlapping sources of epidemiological data on the number of suicides in Poland: Statistics Poland data and reports of the National Police Headquarters, the above alarming statistics are underestimated (Gmitrowicz, 2016; Szostakiewicz,

2020; Śledzianowski, 2017). The first WHO report on suicide prevention, published in 2014, found that globally, suicide was the second cause of death (after road accidents) among young people aged 15–29 (Hołyst, 2018; WHO, 2014). The widescale alarm about suicide prevention among children and adolescents prompts a search for the causes of that phenomenon.

3. Reasons for self-harm and suicide among children and adolescents

Based on sociology, the main suicidogenic features include the breakdown of integration and the condition of society manifested by weakening family ties, family crises, e.g., a dysfunctional family (especially with a parent's alcohol problem), loneliness and isolation (Durkheim, 2006; Formella, 2020; Jarosz, 2004; Jarosz, 2013; Hołyst, 2021). The cause of the increase in suicide of a socio-cultural nature is also a huge crisis of values (Nieroba, 2021). An interesting study was conducted by Steven Stack, in which he included church membership as a religious support system. He concluded that each one% drop in church membership meant a 0.59% increase in youth suicide (Stack, 1983).

Psychological theories also attempt to explain motives for suicidal behaviour. Edwin Shneidman, considered the father of suicidology, focuses on the individual dimension of the act of suicide. He sees the source of suicidal tendencies in pain and mental suffering resulting from the unmet needs of a given person (Ziółkowska, 2016).

Based on the cognitive behaviour therapy (CBT) paradigm, there is a correlation between thoughts, emotions and behaviour. According to Aaron Beck's cognitive theory (1985), suicidal behaviour can result from depressive cognitive distortions. As per dialectical behaviour therapy (DBT), suicidal behaviour understood as impulsive behaviour is a non-adaptive attempt to regulate a negative affect that is overwhelming, uncontrollable and intensely painful (Linehan, 2007). The founder of DBT, Marsha Linehan, who devotes her life and work to helping people with suicidal ten-

dencies, claims that suicidal behaviour is a cry for help from the environment (Linehan, 2007; Linehan, 2021). At the same time, in line with dialectics – as a method of examining and discussing opposing opinions to discover the truth – in the course of her research, the psychotherapist developed a list of reasons that keep alive those who think about suicide. The forty-seven reasons were assigned to six categories: 1) desire to live and belief in finding other solutions, 2) responsibility towards one's family, 3) responsibility for children, 4) fear of suicide, 5) fear of social disapproval, 6) moral objections (Linehan, 2021).

Brunon Hołyst stated, "It is worth remembering that people do not commit suicide because they do not want to live. It is rather because they do not know how to go on living". Suicide or attempted suicide is usually not an act of chance, but a sequence of interrelated thoughts and factors that sometimes last for weeks, months or years (Holka-Pokorska, 2016; Hołyst, 2002). Brunon Hołyst summarises the motivations for suicidal behaviour as follows: "The purpose of suicide is the search for a solution to the problem; the task – depriving oneself of consciousness, psychological needs; the internal attitude – ambivalence towards life; the emotional state – a feeling of helplessness and hopelessness; the cognitive state – narrowing of horizons; the type of action – escape; the form of interpersonal communication – informing other people about the suicidal intention" (Hołyst, 2021, p. 42).

Children and adolescents in particular perceive suicide as a way of escaping from a problem for which they cannot find a solution. It is worth noting that an individual in a serious mental crisis may succumb to the so-called tunnel vision phenomenon, i.e. a state in which a person does not see alternative forms of solution to their situation (Jankowska, 2019).

4. Transdiagnostic nature of suicidal tendencies

Dialectical behaviour therapy emphasises the transdiagnostic nature of such issues as, among other things, emotional dysregulation, suicidal tendencies and relationship problems (A. Fruzzetti, 2024). DBT was

initially developed as a therapy for persons meeting the criteria of borderline personality disorder (characterised by repeated intentional suicidal behaviour and emotional dysregulation) (Flynn, 2024).

Tadeusz Bilikiewicz was the first psychiatrist to emphasise the importance of knowledge of psychiatric diagnosis by all doctors. The awareness of the course of mental illnesses, such as endogenous depression or schizophrenia, helps in the diagnosis of mental disorders and, consequently, can contribute to protecting patients in the risk group from realising suicidal intentions (Bilikiewicz, 1976). Empirical studies indicate that, on average, 45% of suicide victims had contact with primary care providers within 1 month of suicide. Older adults were more likely to contact primary care providers within 1 month of suicide than younger adults (Luoma, Martin, Pearson, 2002).

The correlation between depressive mood disorders and suicidal intentions in both adolescents and adults is undeniable. Nevertheless, non-depressed adolescents also experience suicidal thoughts. An additional diagnostic difficulty proves to be the absence of suicidal tendencies in some depressed adolescents. In view of the above, it is recommended that every minor be assessed for suicidal tendencies. Participation in preventive or therapeutic activities helps to stop the development of depressive symptoms and the potential risk of suicide (Czabański, 2023; Zorruguino, 2002).

The representative studies on suicide attempts conducted in the 1970s, involving a population of several thousand boys and girls, are still relevant. With all the reservations, which dictate caution in formulating generalising conclusions concerning the issue under consideration, there was no doubt that all forms of self-destructive behaviour (including self-harm) grew out of a disadvantageous family situation and were an indicator of the social maladjustment of the perpetrator of the act of aggression. It was also confirmed that individual manifestations of deviance usually occurred together (manifestations of social maladjustment and exclusion: e.g. running away from home, repeating a school year, drug or alcohol abuse, suicide attempts etc.) (Jarosz, 1979).

According to contemporary scientific reports, the risk factors for suicide in adolescence include diagnosis of mental illness (especially depression),

previous suicide attempts, feelings of hopelessness, family history of suicide or suicidal behaviour, divorce of parents, the experience of violence, difficulties at school, suicide in a peer group, being an LGBTQ person, inadequate problem-solving skills, negative media influence, easy access to tools facilitating the suicide attempt, difficult relationships with parents and peer violence (AACAP, 2001; Gmitrowicz, 2018; Hatchel, Polanin, Espelage, 2021; Kropiwnicki, Gmitrowicz, 2013; Nieroba, 2021; Stone, Grosby, 2014; Wasserman et al., 2012).

The majority of studies (also conducted in Poland) with the purpose of a better understanding of suicidal behaviour and creating prevention programmes or increasing their effectiveness focus on the factors that increase the risk of attempting suicide. The risk factors are described rather extensively, whereas far fewer studies take protective factors into account, thanks to which despite the subjective perception of life as unbearable and even when confronted with suicidal thoughts, an individual does not decide to attempt suicide or refrains from such an intention (Krawczyk, Gmitrowicz, 2014). The protective factors include: support from the family and school environment, the ability to cope with problems and find solutions, good self-esteem, social activities and hobbies, a sense of control over life or the purpose and meaning of life, having personal values, faith, religion (Borowiec, 2018; Gajewski, Kucharska, 2023; Krawczyk et al., 2014).

5. Suicide prevention among children and adolescents

The Epidemiology of Mental Disorders and Access to Mental Health Care (EZOP) report prepared by the employees of the Institute of Psychiatry and Neurology made it possible to examine the prevalence of the most commonly diagnosed mental disorders among the residents of Poland aged 18 to 64. The EZOP study confirmed the occurrence of the suicide phenomenon among adult Poles as a significant health problem in society. For that reason, as

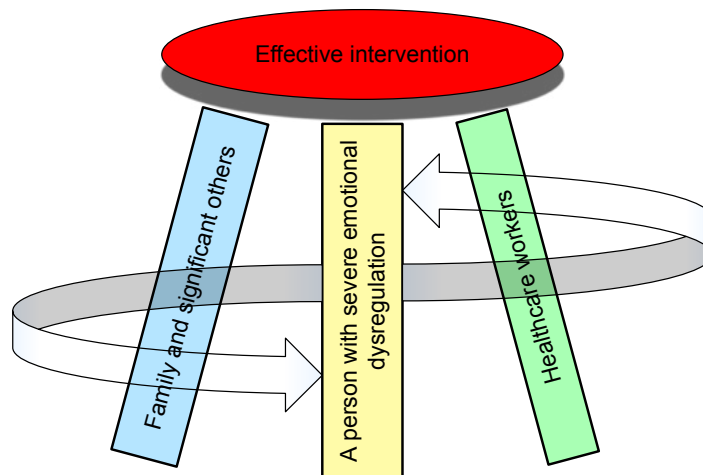


Figure 2. Pillars of systemic interventions within DBT. Source: Mary Kells, 2024

part of the National Programme for Mental Health Protection for 2017–2022, suicide prevention was one of the priority goals and tasks in health policy (Dz. U. of 2017, item 458). In Poland, the suicide rate among children and adolescents is alarmingly high (Borowiec, 2018; Jankowska, 2019).

Based on an agreement between the local government of the Lublin Voivodeship and Niepubliczny Ośrodek Zdrowia Psychicznego DIALOG (a non-public mental health centre) in Chełm, a health programme entitled “Prevention of depressive disorders among young people aged 16-17” was implemented in the Lubelskie Voivodeship. A group of 900 secondary school students (512 girls and 388 boys) aged 16-17, i.e. in middle adolescence, took part voluntarily in the above-mentioned preventive programme. At the stage of early psychological diagnosis, the adolescents were screened for the presence and intensity of suicidal or self-harming thoughts, intentions or acts using two diagnostic scales: the Beck Depression Inventory (BDI) and the Kutcher Adolescent Depression Scale (KADS).

The study found that 12% (61) of girls and 5.2% (20) of boys had suicidal thoughts, as measured using the BDI scale. When using the KADS scale, it was determined that 7.8% (40) of girls and 3.6% (14) of boys experienced suicidal/self-harming thoughts, intentions or acts. The obtained results confirm that in the study group, more girls than boys showed suicidal thoughts or plans.

The research provided empirical data proving that more than 10% of adolescents (7.8% of girls and 3.6% of boys) required specialist help due to suicidal thoughts or self-harming tendencies. Youth from large cities did not participate in the study, therefore it would be justified to continue similar research involving a wider population of adolescents. As a result of the implemented prevention programme, the study participants with self-harming tendencies were offered appropriate specialist assistance: clinical examination and referral for consultation with a psychiatrist and/or psychotherapy (K. Ziarek, R. Ziarek, 2015).

At the DBT Symposium, organised as part of the International Scientific Conference: “Tailor-made. Cognitive Behaviour Therapy” on 19 May 2024 in Warsaw, Armida Rubio Fruzzetti and Mary Kells referred to the Family Connections (FC) programme. Family Connections (FC) is an evidence-based programme addressed to families with a relative or close person suffering from severe emotional and behavioural dysregulation, including those diagnosed with borderline personality disorder (BPD). Developed by Alan Fruzzetti and Perry Hoffman in 2004, FC provides psychoeducation about BPD and family functioning according to current knowledge. The FC training includes 12 meetings and focuses on teaching individual and family skills, giving the possibility of receiving support from group members (A.R. Fruzzetti, 2024; Kells, 2024).

Armida Fruzzetti paid particular attention to the psychological difficulties experienced by parents in connection with their children's self-harm. She pointed out that those parents often experience stigmatisation also from professionals. While discussing the use of the transactional model, she indicated that reducing invalidating responses and increasing validating responses on the part of the family improved treatment outcomes in children and, consequently, reduced the suffering of all family members (figure 1, figure 2) (A.R. Fruzzetti, 2024). The FC programme has been popularised internationally and is currently implemented in twenty-eight countries (A.R. Fruzzetti, 2024; Kells, 2024).

Moreover, Mary Kells, a clinical psychologist and clinical leader of the National DBT Training Team in Ireland, presented the Clinician Connections (CC) programme, which originates from FC and consists of a one-day workshop for clinicians who work with individuals suffering from severe emotional and behavioural dysregulation. The CC programme was developed in response to concerns about staff burnout and its purpose is to provide the personnel with psychoeducation, therapeutic skills and professional support (figure 2) (Kells, 2024).

Daniel Flynn described research on publicly funded mental health services across Ireland. The participants were individuals who had attended the DBT programmes for adults ($n = 196$), adolescents who had taken part in the DBT-A programmes ($n = 84$) and DBT therapists trained under the National DBT Project ($n = 124$). Self-assessed clinical measurements were collected at four intervals during the intervention. Survey data regarding barriers and facilitators to DBT implementation were collected from DBT therapists at three time points: before DBT training, six months after the initiation of the programme and two years after the completion of the training (Flynn, 2024).

The results revealed a significant reduction in all measured indicators for DBT and DBT-A participants, including the presence and frequency of self-harm, suicidal thoughts and depression. A reduction was also noticed in the number of hospitalisations, hospitalisation days and emer-

gency department visits. Also, areas of barriers and facilitators to the implementation of DBT were identified among therapists. The results of the study provided evidence of the effectiveness of DBT for adults and young people using community-based services (figure 2). The study proved that a coordinated approach to the implementation of DBT can be beneficial in achieving positive outcomes in the Irish public mental health system (Flynn, 2024). Daniel Flynn, Principal Psychology Manager and national leader of DBT Strategy and Planning in Ireland, while evaluating the National Dialectical Behaviour Therapy (DBT) Project implemented in institutions providing mental health services also pointed to the greater cost-effectiveness of DBT compared to typical treatment (Flynn, 2024).

In Poland, the Working Team for Suicide and Depression Prevention at the Ministry of Health is preparing the National Suicide Prevention Programme. So far, the suicide prevention programmes established by local governments are small in scope and target only specific groups (Gmitrowicz, 2016; Szostakiewicz, 2020).

In 2022, the community of the Roman Catholic Church in Poland established the Papageno Team, a specialised pastoral care and support zone addressed to people in suicidal crisis, after a suicide attempt and those who experienced a suicide of a loved one. The Papageno Team project includes prevention, intervention and postvention, i.e. assistance to relatives, especially parents after the loss of a child due to suicide (Czajczyńska, Magierski, Terlikowska, 2024).

The implemented prevention programmes indicate the relevance of continuing suicide prevention in schools and involving institutions supporting the child and family in such activities. Currently, due to the ongoing global crisis as an aftermath of the pandemic and wars, integrated prevention is the recommended model, which consists of the simultaneous protection of children and adolescents from epidemic threats, risky behaviour, the weakening of their psychological condition and demographic problems (Grzelak, Żyro, 2023). Comprehensive prevention strategies will be more effective in identifying and supporting those at risk, strengthening social ties and other protective factors, as well as

providing support (Asarnow, Babeva, Horstmann, 2017; Ivey-Stephenson, 2022; Jankowska, 2019; McWhirter et al., 2001; World Health Organization et al., 2007). In preventive activities, it is worth following the principle of dialectical behaviour therapy, i.e., shaping “a life worth living” (Flynn, 2024).

Summary and conclusions

- Statistical data showing a high rate of auto-aggressive and suicidal tendencies among adolescents in Poland prove the need to implement appropriate interventions, as well as preventive and protective measures.

- Adolescents expressing suicidal thoughts require risk assessment and management in each case.
- Preventive measures are helpful detect suicidal thoughts in adolescents and in reducing the presence of such thoughts as a result of tailored interventions.
- Suicide prevention among children and adolescents is possible through scientific conferences, suicidological research and preventive programmes. Multidisciplinary cooperation to prevent suicidal intentions during childhood and adolescence is essential.
- The idea behind dialectical behaviour therapy of shaping “a life worth living” may be helpful in prevention efforts.

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