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Adaptation to Physical Disabilities: The Role of Meaning in Life and Depression

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Abstract

Depression is one of the most frequent psychological symptoms in people with physical disabilities, as the acquisition of a physical disability is a stressful situation, demanding an individual's adjustment to a new distressing reality. While some individuals manage to adapt to their physical disability's implications, others fail to accept this new situation, manifesting depressive symptoms. One factor that seems to facilitate adaptation process to physical disabilities and thus prevent from depression prevalence is meaning of life. Viktor Frankl has emphasized the importance of experiencing meaning of life in the maintenance of physical and psychological health, especially in painful and distressing situations. The present study focused initially on the assessment of meaning in life and depressive symptomatology in individuals with physical disabilities. Moreover, the relationship of meaning in life and depression with adaptation to physical disability was examined. A sample of 522 participants with various types of physical disabilities completed three questionnaires on depressive symptomatology, meaning in life and adaptation to disability. Our assumptions regarding the negative relationship between meaning of life and depression were confirmed. Additionally, meaning of life was found, as expected, to play in important role in facilitating individuals' adaptation to their physical disabilities, a finding indicating the great utility of Frankl's existential theory as a psychotherapeutic tool for people with physical disabilities.

Keywords: depression, meaning of life, adaptation to disability, physical disabilities

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Introduction

Currently, people with physical disabilities constitute a very large and simultaneously a heterogeneous group of general population, as the term *physical disabilities* is broad and covers a wide range of disabilities, including both congenital and acquired disabilities. The onset of an individual's physical disability or chronic illness brings great changes in all aspects of his/her life (Corbin & Strauss, 1987; Morse, 1997). More specifically, an individual with an acquired physical disability experiences the loss of many components of his/her identity: loss of independence, body integrity and mobility, loss of pre-existent roles, regarding his/her job and his/her social relationships (Gordon & Benishek, 1996), resulting in a total functional discount (Charmaz, 1995; Gellman, Sie, & Waters, 1988; Gerhart, Bergstrom, Charlifue, Menter, & Whiteneck, 1993). Therefore, individuals with physical disabilities are often confronted with a new, threatening and stressful reality (Butt & Lanig, 1996; Cohen & Williamson, 1988; Falvo, 1999; Horowitz, 1986), leading possibly to a psychosocial crisis in their lives (Livneh & Antonak, 1997; Moos & Schaefer, 1984), due to the great changes they experience in somatic, psychological, socio-economic, vocational and psychological level.

The individual's adjustment to such a painful situation definitely demands time. It seems that adaptation to physical disability is a complex process depending on many subjective and social parameters, which determine

whether or not an individual will accept his/her disability and socially re-integrate, negotiating his/her new identity and roles in personal and social level. Indeed, Livneh and Antonak (1997) define psychosocial adaptation to chronic illness and disability as the final phase of an adaptation process during which the individual achieves a state of reintegration, positive striving to reach life goals, positive self-esteem and demonstrating positive attitudes toward oneself, others and disability.

The onset of a chronic illness or disability typically triggers a chain of psychological reactions, which correspond to eight phases of responses to physical disability (Livneh & Antonak, 2005). Phases 1 to 6 (Shock, Anxiety, Denial, Depression, Internalized anger, Externalized anger) include the initial stages of adaptation (representing negative adaptation to disability), which an individual hopefully goes through, in order to reach phase 7 and/or phase 8 (Acknowledgement, Adjustment), which are considered as the final phases of adaptation and represent positive adaptation to disability.

Researchers have found that persons with acquired physical disabilities, who adjust more successfully to their disabilities are physically and psychologically healthier (Livneh, Lott, & Antonak, 2004; Snead & Davis, 2002). On the contrary, the difficulty of an individual to accept his/her physical disability has been associated with poor physical health (Matthews & Harrington, 2000), and several psychopathological symptoms (Garofalo, 2000; Livneh et al., 2004; Turner, Lloyd, & Taylor, 2006). Additionally, many research data have yielded that people with physical disabilities and chronic illnesses often experience negative emotional situations, especially depression (Livneh & Antonak, 1997; Livneh & Wilson, 2003; McDermott, Moran, Platt, & Dasari, 2007; Mitra, Wilber, Allen, & Walker, 2005; Tsivgoulis et al., 2007; Vahle, Andresen, & Hagglund, 2000).

In fact, the prevalence of depressive disorders in people with physical disabilities, according to bibliography, varies between 6-77% regarding the acquired physical disabilities, such as traumatic brain injury (Alderfer, Arciniegas, & Silver, 2005; Hibbard, Uysal, Kepler, Bogdany, & Silver, 1998; Hughes, Swedlund, Petersen, & Nosek, 2001; Jorge & Starkstein, 2005; Koponen et al., 2002; Kreutzer, Seel, & Gourley, 2001), spinal cord injury (Dryden et al., 2005; Hughes et al., 2001; Kennedy & Evans, 2001; Kennedy & Rogers, 2000; Smith, Weaver, & Ullrich, 2007; Woolrich, Kennedy, & Tasiemski, 2006) and amputations (Cansever, Uzun, Yildiz, Ates, & Atesalp, 2003; Cheung, Alvaro, & Colotla, 2003; Crawford, Henry, Crombie, & Taylor, 2001; Rybarczyk, Szymanski, & Nicholas, 2000; Whyte & Niven, 2001). In addition, depression is also prevalent in chronic illnesses, such as multiple sclerosis (Arnett & Randolph, 2006; Chwastiak et al., 2002; Feinstein & Feinstein, 2001; Figved et al., 2005; Galeazzi et al., 2005; Miller, 2001; Patten, Beck, Williams, Barbui, & Metz, 2003; Patten, Svenson, & Metz, 2005; Siegert & Abernethy, 2005; Zorzon et al., 2001) and poliomyelitis (Bruno & Frick, 1991; Hazendonk & Crowe, 2000; Kemp, Adams, & Campbell, 1997).

Traumatic events –such as physical disabilities– precipitate meaning crisis, raising questions regarding the purpose and meaning of life (Emmons, Colby, & Kaiser, 1998). Experiencing a life with a physical disability provides the individual opportunities not only to consider his/her attitude towards life but also to find meaning in this experience. Finding meaning in the experience of a physical disability has been found to facilitate the acceptance of and adjustment to the physical disability (Amaral, 2009; Dunn, 1996; Gallagher & MacLachlan, 2000; Thompson, Coker, Krause, & Henry, 2003). Frankl (1966, 1988, 1992a) argued that the ability of maintaining a meaning-directed attitude enhances individuals' adaptability, which enables them to come to terms with their situation. In addition, Dunn (1994) noted that finding meaning in a misfortune is connected with better coping, a fact that has been confirmed in several studies (Amaral, 2009; Baldacchino & Draper, 2001; Chou, Liaw, Yu, & Tang, 2007; Daaleman,

Kuckelman Cobb, & Frey, 2001; Garcia, 2008; Lethborg, Aranda, Cox, & Kissane, 2007; Ruiz, 2002; Thompson, 2007; Yang, Staps, & Hijmans, 2010). Thus, it seems that giving positive meaning in negative events helps individuals to overcome their tragedy and maintain a feeling of meaning in their lives (Chou et al., 2007; Emmons et al., 1998; Lethborg et al., 2007; Lustig, 2005; Sommer & Baumeister, 1998).

Viktor Frankl (1988, 1992a) developed «Logotherapy» as a theoretical system of understanding the way people develop and maintain meaning in their lives. According to Frankl (1992a), a person can find meaning through: a) experiential values, through what a person experiences and gets from life (e.g., enjoying music, a scenery or a relationship), b) creative values, through what a person creates and contributes to life (e.g., building a home, defending a belief) and c) attitudinal values, through what an individual decides freely to do, when confronted with inevitable suffering or an irreversible situation (Frankl, 1988). Even if suffering inhibits an individual from experiencing meaning, s/he can always turn to an ultimate value and draw meaning from it. Frankl (1992a, 2004) emphasized the importance of attitudinal values, considering that people are ready and willing to sustain suffering, as long as they can find a meaning in it.

Logotherapy recognizes the individual's ability to view beyond tragedy and to find the opportunity to gain meaning from this experience, reaching his/her spiritual dimension, which helps him/her transcend all the negative effects of disability in his/her life (Ososkie & Schultz, 2003). In fact, an individual with a physical disability can reach this spiritual dimension by gradually under-estimating all the values that have been lost or threatened by the presence of his/her physical disability and by finding new or rearranged values, that are not in conflict with this physical disability (Persson & Rydén, 2006). This spiritual dimension – called self-transcendence – refers to a person's ability to transcend the biological boundaries of his/her existence and turn to the environment (Frankl, 2004), reach God or others, realize an ideal or accomplish a task (Coetzer, 2003). Thus, in their struggle to discover worthiness and importance in their lives, individuals may experience meaning through new commitments and relationships in their life (Arvig, 2006; Bower, Kemeny, Taylor, & Fahey, 1998; Cho, 2008b; Chou et al., 2007; Garcia, 2008; Janoff-Bulman & Frantz, 1997; Stiefel et al., 2008).

However, if an individual cannot integrate a negative event in the way of his/her life and eventually search for a new meaning in his/her life, it is possible that s/he will experience psychological distress (Yalom, 1980) or even worse existential vacuum, as his/her innate will for meaning has been frustrated (Frankl, 1992b). Existential vacuum refers to a sense of meaninglessness or void in the individual's existence, manifested primarily as boredom, frustration, distress or anxiety (Frankl, 2004; Shek, 2003). Existential vacuum may cause the onset of psychological illnesses (Coetzer, 2003; Shek, 2003), such as substance abuse, violence (Santrock, 2003), aggressiveness and depression (Frankl, 2004). According to research data, meaning of life has been found to play an important role in psychological well-being (Chan, 2009; Halama & Dedova, 2007; Ho, Cheung, & Cheung, 2010; Holahan, Holahan, & Suzuki, 2008; Jaarsma, Pool, Ranchor, & Sanderman, 2007; Lethborg et al., 2007; Pan, Wong, Chan, & Joubert, 2008a; Visser, Garssen, & Vingerhoets, 2010). Additionally, several research data have confirmed a positive relationship of meaning of life with satisfaction with life (Chan, 2009; Ho, Cheung, & Cheung, 2010; Kafka & Kozma, 2002; Konkolÿ Thege, Stauder, & Kopp, 2010; Pan, Wong, Joubert, & Chan, 2008b; Steger & Kashdan, 2007), happiness (Robak & Griffin, 2000), positive view of the future and the world (Molcar & Stuempfig, 1988; Rappaport, Fossler, Bross, & Gilden, 1993), death acceptance (Blazer, 1973), crisis management strategies (Auhagen, 2000; Halama & Bakosova, 2009), with clear goals and values (Konkolÿ Thege et al., 2010; Yalom, 1980; Yeager & Bundick, 2009).

On the other hand, meaning of life has been negatively associated with psychopathological symptoms (Cho, 2008a; Fox & Leung, 2009; Ho et al., 2010; Owens, Steger, Whitesell, & Herrera, 2009; Yalom, 1980), social isolation (Ho et al., 2010), alienation from self, others and the world (Cacioppo, Hawkley, Rickett, & Masi, 2005; Debats, 2000; Ho et al., 2010), with fear of death (Routledge & Juhl, 2010), boredom (Giuliano, 2002) and feeling of despair (Kang, Shim, Jeon, & Koh, 2009; Yang et al., 2010). Lack of meaning of life has been associated with depression (Cho, 2008a; Konkolÿ Thege et al., 2010; Mascaro & Rosen, 2008; Simonelli, Fowler, Maxwell, & Andersen, 2008; Stolovy, Lev-Wiesel, Doron, & Gelkopf, 2009; Westerhof, Bohlmeijer, van Beljouw, & Margriet, 2010) and anxiety (Ishida & Okada, 2006), suicidal ideation and drug abuse (Edwards & Holden, 2001; Fitzpatrick, 2009; Heisel & Flett, 2004; Kinnier, Metha, Keim, & Okey, 1994; Rahman, 2001; Waisberg & Porter, 1994).

Finally, both concepts of meaning in life and depression are influenced by cultural factors. Culture in mental health care can be seen as a dynamic process that links the past to the present and is shaped in part by social, historical, and political forces. Culture is more diverse than race or ethnicity and extends to other areas that tend to receive different and less attention by the dominant culture, such as gender, class, sexual orientation, religion and disability (Waite & Calamaro, 2009). The cultural factors are important not only among eastern and western societies but even for European multicultural society, because despite the indisputable similarities, there are, also, important and fundamental differences among the northern, central and southern countries forming the European Union.

When examining depression within different European countries, culture may be integral to improve detection, intervention, and recovery efforts in different European countries, due to significant differences in social, political, financial, historical, ethnic and cultural backgrounds and especially in Greece, which seems to be in the midpoint between east and west. An interesting study, for instance, based on data collected in 14 nations in Europe (N = 3,438 female and 2,091 male students; aged 17-30 years), has shown that soft or feminine nations, in which both women and men are offered equal opportunities for the fulfillment of multiple social roles that are associated with good self-rated health, would score significantly lower on national depression levels than tough or masculine societies in which such opportunities exist to a clearly lesser extent (Arrindell, Steptoe, & Wardle, 2003).

One of the purposes of the current study was to highlight the phenomenon of depression in people with physical disabilities in Greece and its relationship with meaning of life, which, according to bibliography, plays an important role in the manifestation of depression. The current study aimed at examining the extent to which people with physical disabilities develop depressive symptomatology, as this particular population is considered very vulnerable in depressive symptomatology, due to the stressors they experience as a result of their social stigmatization and their losses at physical, vocational and social-economic level.

Hence, we will explore the degree to which the sense of meaning in life and its dimensions relate to the development of depression in people with physical disabilities. The worldwide researches regarding meaning of life and its connection with depression are only few (Cho, 2008a; Debats, 2000; Hart, Fonareva, Merluzzi, & Mohr, 2005; King, Hicks, Krull, & Del Gaiso, 2006; Konkolÿ Thege et al., 2010; Lyon & Younger, 2001; Mascaro & Rosen, 2008; Robak & Griffin, 2000; Simonelli et al., 2008; Stolovy et al., 2009; Westerhof et al., 2010), concerning mostly individuals with chronic diseases but not with physical disabilities, and mainly conducted in North America. In Greece, the respective studies regarding meaning of life and its relationship with depression in general and specifically in individuals with physical disabilities are virtually non-existent, which rises caution as to the generalizability of their results to this population in the specific sociocultural context of Greece.

Furthermore, the above mentioned studies are generally focused on the existence of a general meaning in an individual's life and not its dimensions. Consequently, based on Frankl's logotherapeutic concepts, one of the main purposes of the present study was to explore the relationship of depression and adaptation to physical disability with the specific meaning dimensions such as *Purpose*, *Coherence*, *Choice/Responsibleness*, *Death Acceptance*, *Existential Vacuum* and *Goal Seeking*. Finally, the relationship of both depression and meaning in life with an individual's adaptation to his/her physical disability will be investigated.

Method

Participants and Procedure

The sample consisted of 511 participants with various types of physical disabilities: paraplegia (34.3%), quadriplegia (16.9%), amputation (24.3%), poliomyelitis (20.9%), multiple sclerosis (2.3%) and hemiplegia (1.3%). With regard to the gender, 234 (45%) were women and 288 (55%) were men and their age ranged from 19 to 78 years with a mean age of 39 years (*SD* = 8.85). Their marital status was the following: 267 (51.1%) were single, 209 (40%) were married, 29 (5.6%) were divorced and finally 17 (3.3%) were widowed. The sampling was coincidental, with voluntary participation.

The research took place in various institutions and fellowships of people with physical disabilities. All participants were approached individually and informed about the aims of the study. Those who volunteered to participate were interviewed individually. In the interview, which lasted for about 1 hour, each participant provided answers to the items of three questionnaires which were given in a random order, with the assistance of one and the same interviewer. The interviewer read the questions aloud to each participant, who had already had a copy to read simultaneously if s/he wished to do so and ticked against his/her answers. Upon completion of the interview the researcher thanked each interviewee for his/her participation in the current research. Eventually, 28 participants were eliminated because they failed to appropriately complete the questionnaires used in this study.

Measures

In the present study three instruments were administered and a brief questionnaire concerning the participants' demographic characteristics:

1. Life Attitude Profile-Revised (LAP-R). The LAP-R (Reker, 1992) is a 48-item Likert-type rating scale that measures discovered meaning of life and the person's motivation to find meaning in his life. In general, LAP-R is a multidimensional measure of Frankl's logotherapeutic concepts. In fact, LAP-R derived from the content analysis of the items of the two best known instruments measuring existential meaning of life: the Purpose In Life Test (PIL) (Crumbaugh & Maholick, 1969) and the Seeking of Noetic Goals (SONG) (Crumbaugh, 1977). Factor analysis on the items of these two questionnaires revealed the multidimensional nature of the meaning of life construct. Given this factorial complexity, LAP-R was developed to measure all these dimensions of meaning in life. Thus, the LAP-R is scored and profiled in terms of six dimensions which correspond to a high degree with its factors: *a) Purpose:* This dimension refers to having goals, a sense of direction and a mission in life, *b) Coherence:* The dimension «Coherence» refers to having an integrated and consistent understanding of self, others and life, having a sense of order and reason for existence and personal identity, *c) Choice/Responsibleness:* It refers to the perception of freedom of choice and the exercise of personal responsibility in directing life, *d) Death Acceptance:* This dimension refers to lack of fear and anxiety about death and its acceptance as a natural aspect of life, *e) Existential Vacuum:* It refers to experiencing meaninglessness in life, a lack of goals and direction and having

feelings of boredom, apathy or indifference. It is an operational index of a frustrated "will to meaning", *f) Goal Seeking:* It refers to the desire to get away from the routine of life, to search for new goals and new challenges and to get more out of life.

In regard to the LAP-R factorial structure, from the principal component analysis with Varimax rotation, a five-factor model was extracted, in which the first factor to emerge was a composite of the "Purpose" and "Coherence" dimensions (Reker, 1992). The second factor was the "Existential Vacuum" dimension, the third was the "Choice/Responsibleness" dimension, the fourth factor corresponded with the "Death Acceptance" dimension and finally the fifth factor corresponded with the "Goal Seeking" dimension (Reker, 1992). This extremely good fit between the LAP-R dimensions and the derived factor structure, according to Reker (1992), demonstrates the satisfactory construct validity of LAP-R. The five-factor model of LAP-R has also been supported by other similar studies (Bearsley & Cummins, 1999; Mehnert & Koch, 2008). The LAP-R has a) a very high internal consistency (dimensions' intercorrelations: .77-.91) among various age groups, b) a satisfactory test-retest reliability (coefficients: .77-.90) and c) a good concurrent validity (in correlation with other similar questionnaires) (Reker, 1992).

In the present study, LAP-R was translated and adapted into Greek by a team of three bilingual psychologists (Psarra & Kleftaras, 2012a). The Greek version of LAP-R was found to have a very satisfactory a) reliability according to split-half method for its items (.90, Spearman-Brown formula) and "Cronbach's α" coefficient (.89) and b) factorial structure, similar with the five-factor model extracted in other studies (Psarra, 2010).

2. Reactions to Impairment and Disability Inventory (RIDI). The RIDI (Livneh & Antonak, 1990) is a 60-item multidimensional instrument that measures adaptation to disability in terms of 8 subscales (shock, anxiety, denial, depression, internalized anger, externalized anger, acknowledgement, and adjustment), which reflect the level of the person's adaptation to his disability. The first five levels –except denial, which is a category in and of itself– represent poor adaptation to disability (reactions of shock, anxiety, depression, internalized anger, and externalized hostility). The last two levels, which reflect the final levels of adjustment (reactions of acknowledgment and adjustment), represent positive adaptation to disability (Livneh & Antonak, 1997).

With regard to RIDI's factorial structure, Livneh, Martz, and Bodner (2006) have concluded that RIDI consists of three factors, which are: a) Positive adaptation, b) Negative adaptation and c) Denial of permanence of physical impairment and of apperception of threatening information. This three-factor model of RIDI has also been confirmed in a high degree by other studies (Livneh et al., 2004; Martz, Roessler, & Livneh, 2002). The RIDI has been found to have a good concurrent validity, as assessed by its correlation with Linkowski's Acceptance of Disability Scale (r = .68). Its internal consistency was also good, as the reliability coefficients of "Cronbach's α" for its scales have been found to range between .69 and .89 (Livneh & Antonak, 1997; Livneh & Wilson, 2003; Livneh et al., 2001).

In the present study, RIDI was translated and adapted in Greek by a team of three bilingual psychologists (Psarra & Kleftaras, 2012b). Regarding RIDI's internal consistency and reliability coefficients (Cronbach's α) of its dimensions were found satisfactory (.52-.90), while split-half reliability was of .86 (Spearman-Brown formula). The derived factorial structure of the Greek version of RIDI was similar to the three-factor model extracted in other studies (Psarra, 2010).

3. Questionnaire of Self Evaluated Depressive Symptomatology (QD2). The QD2 is a 52-item self-report that taps a variety of the affective, cognitive and somatic symptoms of depression. The items are answered true or false. Higher scores indicate more severe levels of depression. This questionnaire was constructed and validated by

Pichot et al. (1984) in France. In fact, QD2 derived from the content analysis of the items of the four best known self report inventories exploring the symptoms experienced by depressive patients: the Hopkins Symptoms Check List (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974), the French version of the Beck Depression Inventory (BDI; Pichot, Piret, & Clyde, 1966), the Depression Scale of the Minnesota Multiphasic Personality Inventory (MMPI-D; Hathaway & McKinley, 1942-47) and the Zung Self-Rating Depression Scale (SDS; Zung, 1965).

The QD2 has a) a good homogeneity (studied by computing the phi [Φ] coefficient for each item: all coefficients were significant to .01 level of significance except from two which were significant to .05 level of significance), b) a good reliability (split-half method; Spearman-Brown formula) studied in four groups of depressed (.93, N = 157), normal (.92, N = 89), organic (.95, N = 90) and psychiatric patients (.94, N = 145), c) a good concurrent validity according to three criteria: contrasts between groups of depressed and non-depressed participants (normal, organic and psychiatric patients), correlation with Zung Questionnaire, correlation with the intensity of depression as rated clinically, and d) a satisfactory factorial structure. The responses of a group of clinically depressed patients (N = 157) to QD2 were subjected to factor analysis which revealed three basic dimensions (factors), which correspond respectively to the feelings of loss of general drive, to the depressive-pessimistic mood, and to anxiety.

The QD2 was translated and adapted in Greek by a team of three bilingual psychologists (Kleftaras & Tzonichaki, 2012). The factorial structure of the Greek version of QD2, as studied in both our sample and a population of young and elderly individuals (Kleftaras & Tzonichaki, 2010; Tzonichaki, 1994; Tzonichaki & Kleftaras, 1998), proved satisfactory and confirms the results of the relevant studies in France (Kleftaras, 1988, 1991, 2000; Pichot et al., 1984). The Greek version of QD2, in the present study, has been found to have a very high reliability based on the split-half method (.98, Spearman-Brown formula), while “Cronbach’s α” reliability coefficient was of .97 (Psarra, 2010).

Results

Since the validity of the instruments used in the current research has not been studied in Greece or/and in a population of Greek people with physical disabilities, we decided to study first the factorial structure of these instruments based on our sample. The unrotated principal components analysis was performed separately on the LAP-R, the QD2 and the RIDI items, the first principal component was, as expected for all instruments, a highly general one upon which most items loaded moderately and all items loaded in the positive direction (Table 1). According to the rotated (Varimax) principal components analysis, the factorial structure of these measures, as detected in our sample (Psarra, 2010), was satisfactory and confirmed on the whole the results of previous studies: a) the LAP-R contained six factors, explaining 68.94% of the variance, which correspond to the dimensions proposed by Reker (1992); b) the QD2 showed the three primary factors that were found in the study of Pichot et al. (1984), accounting for 58.26% of the total variance and c) the RIDI contained the three factors that were found in previous studies (Livneh et al., 2004; Martz, Roessler, & Livneh, 2002), explaining 53.94% of the variance.

As predicted, statistically significant correlations between depression and a) meaning of life and b) adaptation to physical disabilities were obtained (Table 2). Specifically, with regard to the relationship between depression and meaning of life, we found that the more depressed a person with physical disabilities: a) the lower the “Purpose” (r = -.84, p < .01), the “Coherence” (r = -.75, p < .01), the “Choice/Responsibleness” (r = -.78, p < .01), the “Death Acceptance” (r = -.37, p < .01) and the “Goal Seeking” (r = -.22, p < .01, and b) the higher the “Existential Vacuum” (r = .75, p < .01). Additionally, regarding the relationship between depression and adaptation to physical disabilities,

Table 1

Principal Components Factor Analysis of QD2 (Depression), LAP-R (Meaning of Life) and RIDI (Adaptation to Disability)

Item	Loadings			Item	Loadings		
	QD2	LAP-R	RIDI		QD2	LAP-R	RIDI
	1 PC	1 PC	1 PC		1 PC	1 PC	1 PC
1	.79	.71	.54	31	.73	.72	.38
2	.70	.63	.61	32	.74	.88	.48
3	.73	.49	.40	33	.63	.72	.63
4	.71	.61	.57	34	.72	.76	.50
5	.77	.71	.10	35	.57	.59	.43
6	.75	.71	.56	36	.72	.72	.74
7	.57	.58	.66	37	.65	.77	.67
8	.75	.76	.46	38	.81	.67	.69
9	.67	.66	.24	39	.73	.60	.65
10	.65	.68	.52	40	.77	.67	.58
11	.65	.71	.70	41	.78	.75	.27
12	.73	.66	.48	42	.57	.69	.52
13	.73	.57	.31	43	.61	.70	.63
14	.78	.59	.40	44	.75	.71	.49
15	.73	.85	.70	45	.66	.46	.15
16	.78	.73	.63	46	.67	.74	.68
17	.65	.75	.48	47	.65	.60	.26
18	.68	.74	.55	48	.68	.76	.71
19	.78	.66	.25	49	.66		.61
20	.78	.65	.53	50	.78		.27
21	.78	.63	.54	51	.80		.74
22	.77	.84	.22	52	.77		.16
23	.83	.74	.32	53			.62
24	.53	.76	.30	54			.69
25	.70	.82	.17	55			.67
26	.76	.44	.64	56			.60
27	.76	.66	.15	57			.48
28	.51	.76	.55	58			.75
29	.77	.79	.60	59			.55
30	.58	.70	.31	60			.62

we found that the more depressed a person with physical disability, the lower the “Positive adaptation” (r = -.57, p < .01) and the higher the “Negative adaptation” (r = .86, p < .01). In other words, the more the purpose in life, the inner coherence, the responsibility, the fear of death and the new goals a person experiences, the less depressed he/she is and vice versa. Additionally, the more a person’s existential vacuum, the more depressed he/she is and vice versa. Furthermore, the more depressed the person is, the more doubtful his/her adaptation to physical disability is.

Concerning the relationship between meaning of life and adaptation to physical disability, statistically significant correlations were found (Table 3) in the expected direction between: a) negative adaptation to disability and meaning of life dimensions (Purpose: r = -.79, p < .01; Coherence: r = -.77, p < .01; Choice/Responsibleness: r = -.75, p < .01); Death Acceptance: r = -.30, p < .01; Goal Seeking: r = -.21, p < .01; Existential Vacuum: r = .75, p < .01) and b) positive adaptation to disability and meaning of life dimensions (Purpose: r = .62, p < .01; Coherence:

Table 2

Pearson Correlations Between Depression (QD2), Meaning of Life (LAP-R) and Adaptation to Physical Disability (RIDI)

	Depression (QD2)
Meaning of Life (LAP-R)	
Purpose	-.84**
Coherence	-.75**
Choice/Responsibleness	-.78**
Death acceptance	-.37**
Goal seeking	-.22**
Existential vacuum	.75**
Adaptation to Physical Disability (RIDI)	
Negative adaptation	.86**
Positive adaptation	-.57**

**$p < .01$.

$r = .58$, $p < .01$; Choice/Responsibleness: $r = .58$, $p < .01$); Death Acceptance: $r = .22$, $p < .01$; Goal Seeking: $r = .31$, $p < .01$; Existential Vacuum: $r = -.52$, $p < .01$).

Table 3

Pearson Correlations Between Meaning Of Life (LAP-R) and Adaptation to Physical Disability (RIDI)

	Adaptation to Physical Disability (RIDI)	
	Negative adaptation	**Positive adaptation**
Meaning of Life (LAP-R)		
Purpose	-.79**	.62**
Coherence	-.77**	.58**
Choice/Responsibleness	-.75**	.58**
Death acceptance	-.30**	.22**
Goal seeking	-.21**	.31**
Existential vacuum	.75**	-.52**

**$p < .01$.

In other words, the more the purpose in life, the inner coherence, the responsibility, the fear of death and the new goals a person experiences, the more probable his/her adaptation to physical disability is. In addition, the more ineffective a person's ability to find meaning in his/her life, the more doubtful his/her adaptation to physical disability is.

Furthermore, in order to examine whether individuals with higher and lower scores on meaning in life differ significantly as to adaptation to physical disability, the sample was divided into two groups. The first group consisted of 266 individuals (51%) with the lower meaning in life, while the second group consisted of 256 individuals (49%) with the higher meaning in life. As expected (Table 4), comparisons showed statistically significant mean differences as to positive ($t = -7.16$, $p < .0001$) and negative adaptation ($t = 6.04$, $p < .0001$).

Table 4

Comparison of Means Between Individuals With Lower and Higher Meaning of Life Regarding Adjustment to Physical Disability

	Participants with lower meaning of life (N = 266) M (S.D.)	Participants with higher meaning of life (N = 256) M (S.D.)	t
Adaptation to Physical Disability (RIDI)			
Positive adaptation	45.52 (10.16)	50.64 (5.59)	-7.16***
Negative adaptation	56.89 (21.12)	48.18 (10.10)	6.04***

***$p < .001$.

Discussion

One of the purposes of the present study was to evaluate the relationship between depressive symptomatology and meaning of life in people with physical disabilities in the sociocultural context of Greece. A strong relationship was predicted between these two variables, in the sense that an individual experiencing meaning of life: having goals and mission in life, a clear sense of personal identity, the freedom to make choices responsibly and viewing death as a natural aspect of life, will be less prone to manifestation of depressive symptoms. Results provide support for this prediction and are consistent with previous research that identified a strong relationship between meaning of life and depression (Cho, 2008a; Debats, 2000; Hart et al., 2005; King et al., 2006; Konkolÿ Thege et al., 2010; Lyon & Younger, 2001; Mascaro & Rosen, 2008; Robak & Griffin, 2000; Simonelli et al., 2008; Stolovy et al., 2009; Westerhof et al., 2010). Furthermore, the present study confirmed the strong relationship between depression and existential vacuum, as it became clear that the more a person's depression, the more the boredom and lack of meaning of life he/she experiences, a finding that affirms Frankl's view (2004) about the unbreakable bond between depression and existential vacuum.

Overall, these findings support both Frankl's existential theory (1992a, 1988), regarding the connection between experiencing meaning of life and psychological health and the results of previous relevant studies (Chan, 2009; Halama & Dedova, 2007; Ho et al., 2010; Holahan et al., 2008; Jaarsma et al., 2007; Lethborg et al., 2007; Pan et al., 2008a; Visser et al., 2010). It is also noteworthy that this theory is verified and applied for the population of individuals with physical disabilities, a fact indicating the diachronism and generalization of postulates of Frankl's existential theory among particular groups of general population.

Furthermore, our assumptions regarding the strong relationship between depression and adaptation to physical disability were confirmed. More particularly, depression was found to have a statistically significant relationship, as it was expected, with adaptation to physical disability, namely a positive relationship with negative adaptation and a negative relationship with positive adaptation. These findings agree with the ones of previous studies, regarding the connection between adaptation to physical disability and physical and psychological health, and more specifically the relationship of negative adaptation to physical disability with poor somatic and psychological health (Livneh et al., 2004; Matthews & Harrington, 2000), and the relationship between positive adaptation to physical disability with general somatic and psychological health (Livneh et al., 2004; Snead & Davis, 2002).

On the other hand, as it was hypothesized, a significant relationship between meaning of life and adaptation to physical disability was obtained. More specifically, a negative relationship was found between meaning of life (and its dimensions) and negative adaptation to physical disability, except for the dimension of existential vacuum

that was found to have a positive relationship with negative adaptation to physical disability. Moreover, meaning of life and its dimensions (except for existential vacuum) was found to have positive relationship with positive adaptation to physical disability.

According to the aforementioned findings, it seems that, when persons with physical disabilities possess a feeling of meaning and direction in life, have a clear sense of personal identity and responsibility for life, accept the inevitability of death and pursue new challenges in life, then they accept and cope better with their physical disability. On the contrary, when individuals experience an absence of meaning, goals and mission in their life and feelings of apathy, boredom and indifference about their life (existential vacuum), resulting from their physical disabilities, then it is more difficult for them to accept and adjust to those disabilities. Thus, it is obvious that these findings concur with Frankl's (1966, 1988, 1992a) and Dunn's (1994) viewpoint that the maintenance of a life attitude towards meaning and finding positive meaning in negative experiences –such as physical disability– offers the person the capability of resilience and the ability for better coping with this negative experience, affirming at the same time previous research data (Amaral, 2009; Baldacchino & Draper, 2001; Bower et al., 1998; Chou et al., 2007; Daaleman et al., 2001; Emmons et al., 1998; Garcia, 2008; Lethborg et al., 2007; Lustig, 2005; Ruiz, 2002; Thompson, 2007; Sommer & Baumeister, 1998; Yang et al., 2010).

Overall, the aims of the present study regarding the better understanding and exploration of depressive symptomatology in people with physical disabilities succeeded, as many important data emerged about depression manifestation and the potential ways of preventing and treating depression in people with physical disabilities. A critical parameter that was found to affect the possibility of depression manifestation is the feeling of meaning in life, a finding indicating the potential utility of Frankl's existential theory as an important therapeutic tool both for depression prevention and treatment and for enhancement of the individuals' adaptation to their physical disabilities. Thus, Frankl's existential theory about meaning of life seems to be promising for psychotherapeutic application and it would be interesting if future research considered the importance of meaning of life and its role in the depression of individuals with or without disabilities.

It is a limitation of the present study that the sample was not random, as the individuals' participation was voluntary and thus our findings cannot be generalized in all people with physical disabilities. Another limitation stems from the fact that even though the participants in this study had physical disabilities, however they were relatively active people, with many social and professional activities. Thus, these results may not reveal the actual degree of depression and negative adaptation of persons with physical disabilities who are not actively engaged in social and professional activities and may not be generalized to a clinically depressed population. A methodological limitation of our study is that the validity of the instruments used has not been studied in a Greek population. However, the factorial structure extracted was similar with those found in previous studies, a fact that allows us to use these measures for research purposes. Another limitation is the correlational nature of our results, which cannot allow us to conclude about the etiological relationship between the variables studied.

Based on the findings about the importance of meaning of life in the process of adaptation to physical disability, it would be interesting if future research investigates further the contribution of positive feelings to the process of adaptation to physical disabilities and maintenance of psychological health. Feelings of optimism, hope, patience, happiness and love seem, according to positive psychology (Seligman, 1999; Seligman & Csikszentmihalyi, 2000) to contribute to a person's psychological well-being, making him/her more resilient in stressful circumstances. Finally, it would be interesting if future research takes into consideration the variables used in the current study in individuals

without physical disabilities, irrespective of their age, in order to highlight the differences –if any– regarding meaning of life, between people with and without physical disabilities.

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