

SELF-EDUCATION IN THE THEORY OF UPBRINGING: AN ANDRAGOGICAL MODEL OF ANXIETY REDUCTION FOR PEOPLE OF RETIREMENT AGE

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Abstract: Retirement alters established patterns of everyday life, social roles, and forms of participation, thereby placing new demands on older adults' capacity to understand and regulate their own experiences. This study presents an author-developed andragogical model for working with anxiety symptoms among women of retirement age and examines the outcomes of its application. The study included 60 women, equally allocated to an experimental and a control group. Anxiety was measured before and after implementation of the model. The work with the experimental group was organised into successive stages comprising an authorial fairy tale, the symbolic naming of the anxious thought, sensory and bodily experience in a steam environment, movement and symbolic action in water, and concluding reflection. At baseline, the two groups had identical mean scores ($M = 12.50$; $SD = 1.74$). Following completion of the intervention, the mean score in the experimental group decreased to 8.00 points, whereas that of the control group remained virtually unchanged at 12.40 points. The reduction in the experimental group was 4.50 points (36.0%) and was statistically significant, $t(29) = 8.44$, $p < 0.001$. The difference in change between the two groups was 4.40 points, $p < 0.001$, with Hedges' $g = 1.96$. The findings indicate the potential for an andragogical approach in which the experience of anxiety is incorporated into a process of recognition, symbolisation, bodily awareness, action, and reflection. Further research is required to establish the durability of the observed change and the reproducibility of the findings in other samples.

Keywords: *Andragogy, retirement age, anxiety, self-regulation, experiential learning, reflection.*

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Introduction

Retirement represents a significant life transition that places the individual in circumstances characterised by substantial changes affecting the organisation of everyday life, the social roles previously performed, and the opportunities for active participation in society. The cessation of professional employment alters established patterns of daily living and necessitates adaptation to new conditions associated with a different allocation of time, a reduction in the frequency of social interactions, and a reappraisal of one's place within the social environment. The course of this adaptive process is inherently individual and is shaped by the combined influence of health status, accumulated life experience, family circumstances, and the availability of social support and other personal resources. During the adjustment to retirement, some older adults may experience elevated levels of anxiety. Such manifestations commonly include persistent feelings of inner tension, prolonged apprehension, difficulty achieving psychological relaxation, excessive concern regarding future events, and heightened sensitivity to changes in physical health. These experiences should not, in themselves, be regarded as evidence of a mental disorder, since in many instances they constitute a natural response to the profound changes associated with this stage of life. From a pedagogical perspective, however, they assume particular significance when they restrict social participation, impede engagement in educational activities, or diminish the motivation to acquire new knowledge and skills [1].

Psycho-emotional resilience in later life develops through the interaction of numerous interrelated factors. Among the most influential are the individual's health status, accumulated life experience, the presence of a supportive social environment, the quality of interpersonal relationships, and the extent to which active social engagement is maintained. Consequently, advancing age should not be viewed as an independent determinant of diminished capacity to cope with stress. Considerable individual variation exists, reflecting the personal resources and adaptive capacities developed throughout the preceding stages of the life course. Within this context, self-education assumes particular pedagogical significance as a purposeful process of personal growth and self-development [2]. Through self-observation, reflective self-examination, and the conscious regulation of behaviour, older adults enhance their capacity to recognise psycho-emotional responses appropriately, critically evaluate the factors contributing to them, and manage conditions associated with sustained psychological strain. The development of these competencies contributes to the maintenance of psychological resilience, the preservation of social engagement, and the cultivation of a positive disposition towards lifelong learning [3]. Within educational theory, self-education is regarded as a natural stage in the development of the individual, during which personal agency assumes a central role in the process of self-improvement. In retirement, this process is grounded in established value

orientations, extensive life experience, and well-developed behavioural patterns. Accordingly, pedagogical interaction with older adults should be directed towards fostering reflective thinking, encouraging critical engagement with personal experience, and creating conditions that support autonomous decision-making [4]. Such an approach is consistent with the principles of andragogy, according to which the adult learner is recognised as an active participant in his or her own development, while pedagogical support is understood primarily as consultative, facilitative, and developmental in nature [5]; [6].

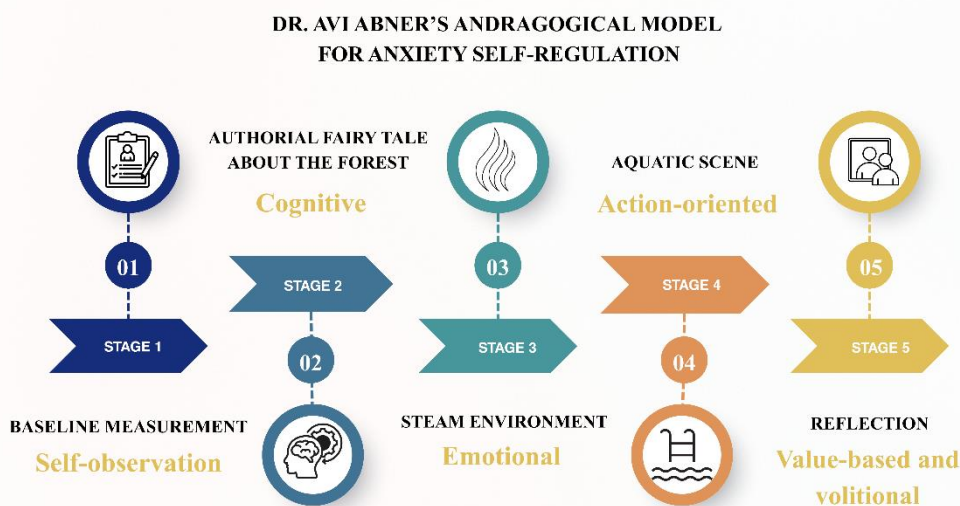
Method

The study was conducted with two parallel groups, with measurements taken at baseline and at the end of the study. It involved 60 women of retirement age. The experimental group participated in the andragogical model described above. The control group maintained its usual routine over a comparable period and completed the same instrument at the same points in time. Participation was voluntary. The study included women of retirement age who were able to understand the instructions independently and complete the questionnaire. Access to the steam and aquatic environments was subject to a prior safety assessment.

The two measurements were linked by means of an anonymous identifier, allowing change to be tracked at the individual level without the participants' names appearing in the analytical dataset itself. Anxiety was measured by means of a specialised questionnaire at baseline and at the end of the study. Each response was scored from 0 to 3 points, yielding a total score ranging from 0 to 21. The questionnaire was used as a screening indicator of the severity of anxiety symptoms. The model was organised as a progression through four interrelated levels. At the first level, the anxious thought was identified and given an image. At the second, attention was directed towards the emotional and bodily sensations accompanying the thought. At the third, the experience was transformed into symbolic action in an aquatic environment. At the fourth, the participants formulated a personal conclusion and an action that could subsequently be repeated independently. The sequence followed the logic of experiential learning and the reflective transformation of personal frames of meaning [4].

Dr. Avi Abner read aloud his authorial fairy tale, which formed part of the study, after which he posed questions relating to the images and experiences that had arisen. The participants themselves related the content of the fairy tale to their own life experience.

Figure 1. Conceptual Structure of the Andragogical Model



Source: Developed by Dr. Avi Abner within the framework of the present study.

The opening narrative was developed specifically for the purposes of the study and does not constitute a retelling or adaptation of a work by Peter Wohlleben. Its point of departure is the conception of the forest as a living community whose individual elements exist in a state of mutual interconnectedness—an idea advanced in *Can You Hear the Trees Talking?* [7]. Within the context of the present model, this conception assumes a different function. The image of the tree, which belongs to the forest and exists through a multitude of visible and invisible connections, makes it possible to consider human experience as something that likewise carries memory, relationships, and the possibility of support. No textual passages or elements of plot have been borrowed from the book. The choice of the fairy-tale form is not associated with returning the adult participant to a childlike mode of perception. The fairy tale is used as an indirect means of

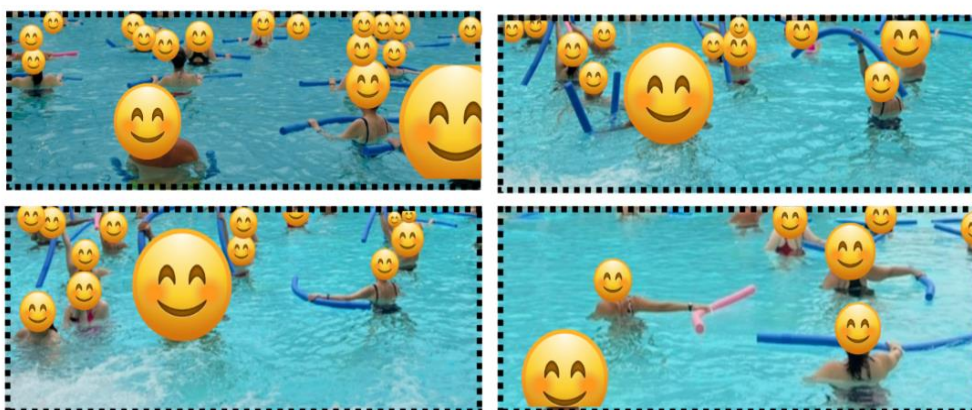
approaching an experience that is not always easily articulated in direct terms. A question such as ‘Why are you anxious?’ calls for an immediate explanation and may lead the participant towards already familiar answers concerning her own condition. The metaphorical image offers another possibility: anxiety may be perceived as wind, a sound, a leaf, or a path and, in this way, may temporarily be placed at a distance from the person experiencing it, rather than being immediately identified with the self. George Burns’s understanding of therapeutic metaphor as a space in which an individual arrives at personal meaning, rather than receiving a predetermined interpretation, is close to the logic pursued here [8]. In the present study, however, metaphor is introduced not as a therapeutic technique, but as an element of the andragogical work, creating the conditions in which the participant herself can name, examine, and make sense of her own response.

Before the substantive work began, the participants completed the questionnaire, which established the baseline level of anxiety symptoms. The baseline assessment also served as a reference point for the subsequent monitoring of individual change. The second stage introduced the participants to the imaginative world of the forest through the authorial fairy tale *The Forest that Lets the Wind Pass Through*. In the tale, the wind passes through the forest, sets the trees in motion, and carries away dry leaves and broken twigs without disturbing the firmness of their roots. The leaf becomes a symbolic bearer of that which weighs upon a person. Through this image, the participants' attention was directed towards the anxious thought. Each participant was asked silently to name what she feared and to associate it symbolically with the leaf. The wind was introduced as an image of movement and force, to which a person may entrust part of the burden she carries. The fairy tale did not end with a final release from fear, but prepared the transition to the next stage, in which the image of the wind acquired an immediate sensory dimension. The third stage continued what had begun in the fairy tale, now within the steam environment. The participants remained with their eyes closed, while the combination of heat, aroma, and the movement of air recreated a sensory association with the forest. The aromas used complemented the forest imagery, while movements with towels created currents of air of varying intensity and duration. In this way, the wind ceased to be solely an imagined element of the fairy

tale and became an immediate bodily sensation. The participants felt the movement of air upon their bodies, the heat, and the aroma, while their attention was directed towards their breathing and the areas of the body in which tension was felt most distinctly. The symbolic meaning introduced through the leaf was retained: the fear that had been named had already acquired an image, while the experience of the wind enabled the participants to feel its movement. In this way, the cognitive and symbolic experience of the fairy tale passed into a sensory and bodily experience. The fourth stage transferred the work to an aquatic environment, where the experience assumed the form of action. The participants entered the pool and performed movements adapted to their individual functional abilities and to the resistance of the water. A floating object was incorporated into the activity and was temporarily assigned symbolic meaning by the participants. Initially, it represented an obstacle, a burden, or something that impeded movement. The participants held it in front of them and, through slow movement in the water, experienced the resistance. The function of the same object then changed. Rather than remaining an obstacle, it became a source of support for movement or relaxation in the water. In this way, change was not presented as the mechanical 'discarding' of anxiety, but as a possibility of changing one's relationship to one's own experience: that which is initially perceived solely as a burden may be transformed into a basis for a different course of action.

Figure 1. Aqua kinetic activity conducted in a swimming pool.

In accordance with ethical requirements and personal data protection principles, the participants' faces have been visually anonymised.



Source: Photographic material provided by the author of the study.

The final stage was directed towards making sense of what had been experienced during the preceding parts of the model. The participants reconstructed the sequence between the anxious thought, its symbolic naming, the bodily sensation, and the action performed. At the end, each participant completed the sentence: 'When the anxious thought returns, I can...'. The purpose of the reflection was for the participants themselves to formulate an action that they recognised as their own and that they could use outside the organised setting. In this way, the individual parts of the model formed a coherent sequence. Following completion of the stages, the participants completed the questionnaire again. The post-intervention assessment was conducted using the same

instrument as at baseline and provided the basis for comparing the results before and after participation in the model.

RESULTS:

The analysis included 60 women of retirement age, equally allocated to the experimental and control groups, with 30 participants in each group. The primary analysis was conducted by comparing the total score on the anxiety subscale at baseline and at the post-intervention assessment. At baseline, the mean score was identical in both groups, $M = 12.50$, $SD = 1.74$. No statistically significant baseline difference was found between the experimental and control groups, $t(58) = 0.00$, $p = 1.000$. Therefore, on the basis of the data provided, the two groups may be regarded as comparable in terms of their baseline level of anxiety symptoms.

Table 1. Summary of the Main Results:

Experimental Group	Control Group	Between-Group Difference	Effect Size
Mean reduction of 4.50 points	Mean reduction of 0.10 points	Difference of 4.40 points in favour of the experimental group	Hedges' $g = 1.96$
$p < 0.001$	$p = 0.639$	$p < 0.001$	Very large effect
Reduction of 36.0%	Reduction of 0.8%	95% CI [3.24, 5.56]	Strong practical significance

Source: Author's calculations.

Table 2. Descriptive Results by Group

Group	N	Baseline Score M	SD	Post-intervention Score M	SD	Mean Reduction	95% CI for the Reduction	Reduction
Control	30	12.5	1.74	12.4	2.11	0.1	[-0.33, 0.53]	0.80%
Experimental	30	12.5	1.74	8	3.47	4.5	[3.41, 5.59]	36.00%

Source: Author's calculations.

Table 3. Results of the Statistical Tests

Statistical Comparison	Difference	t	df	p	95% CI	Effect Size	Conclusion
Baseline difference between groups	0	0	58	1			No baseline difference
Change in the control group	0.1	0.47	29	0.639	[-0.33, 0.53]	$d z = 0.09$	No significant change
Change in the experimental group	4.5	8.44	29	< 0.001	[3.41, 5.59]	$d z = 1.54$	Significant reduction
Difference in change between the two groups	4.4	7.67	37.85	< 0.001	[3.24, 5.56]	Hedges' $g = 1.96$	Significant difference
ANCOVA controlling for baseline score	-4.40	-7.61	57	< 0.001	[-5.56, -3.24]	partial $\eta^2 = 0.504$	Significant adjusted difference

Source: Author's calculations.

The direct comparison of individual change showed that the mean reduction in the experimental group was 4.40 points greater than that observed in the control group. The difference was statistically significant, $t(37.85) = 7.67$, $p < 0.001$, 95% CI [3.24, 5.56]. The resulting effect size, Hedges' $g = 1.96$, is interpreted as very large, indicating that the observed difference is not only statistically significant but also of substantial practical significance. An additional analysis of covariance was conducted, in which post-intervention scores were compared between the groups after statistically controlling for baseline anxiety levels. Following adjustment, the mean post-intervention score in the experimental group was 4.40 points lower than that in the control group, $t(57) = -7.61$, $p < 0.001$, 95% CI [-5.56, -3.24]. The partial $\eta^2 = 0.504$ indicates that group membership accounted for a substantial proportion of the variance in post-intervention scores. The results demonstrate a statistically significant and marked reduction in anxiety symptoms in the experimental group. No substantial change was observed in the control group. These findings support the assumption that participation in the applied andragogical model was associated with a reduction in the severity of anxiety symptoms, as measured by the questionnaire, among the women included in the study. In the experimental group, the mean score decreased from 12.50 points at baseline to 8.00 points at the post-intervention assessment. The mean reduction was 4.50 points, representing a decrease of 36.0% relative to the baseline level. The paired-samples t-test showed that the change in the experimental group was statistically significant, $t(29) = 8.44$, $p < 0.001$. The confidence interval for the mean reduction did not include zero, 95% CI [3.41, 5.59], further confirming the presence of a genuine change. The standardised effect size was Cohen's $d_{z} = 1.54$, indicating a very large effect. In the control group, the

mean score changed only marginally, from 12.50 to 12.40 points. The mean reduction was only 0.10 points, or 0.8%. This change was not statistically significant, $t(29) = 0.47$, $p = 0.639$. The confidence interval included zero, 95% CI [-0.33, 0.53], and the effect size was negligible, Cohen's $d_{z} = 0.09$.

Conclusion

The study found a different pattern of change in anxiety symptoms between the experimental and control groups. At baseline, the two groups had identical mean scores. Following completion of the programme, anxiety scores decreased significantly in the experimental group, whereas those in the control group remained almost unchanged. The difference between the groups was statistically significant ($p < 0.001$; Hedges' $g = 1.96$). These findings concern the model as a whole and do not allow the observed change to be attributed separately to the fairy tale, the steam environment, the work in water, or the concluding reflection. The model was developed as a sequence of different forms of engagement with the experience of anxiety. In the authorial fairy tale, the participants name their fear and associate it with a symbolic image. In the steam environment, the image of the wind introduced through the tale is experienced through the senses, by means of moving air, heat, and aroma. In the aquatic environment, the experience is carried into movement and symbolic action, while the concluding reflection requires the participants themselves to determine how they might respond when the anxious thought returns. The stages are interconnected, with each continuing the work begun in the preceding stage. This sequence is central to the andragogical character of the model. The participants' personal experience is not merely a subject for

discussion but forms part of the work itself. They name the fear themselves; the meaning of the image is not predetermined by the facilitator; and the concluding action is likewise formulated by the participants. They therefore retain an active position in relation to their own experience. This is particularly relevant when working with people of retirement age, for whom accumulated life experience has a direct bearing on how new situations are understood and new ways of acting are developed. Contemporary research on lifelong learning has also identified the need for stronger empirical investigation alongside the extensive theoretical work in this field [9]. The findings should also be considered alongside recent research on anxiety in later life. Anxiety symptoms are common among older adults and have been associated with health-related, social, and psychosocial factors [10]. Esther Frema Ofori reported evidence that physical activity can reduce anxiety symptoms among adults aged 65 years and over. Arman Shafiee likewise reported reductions in anxiety symptoms following physical activity in a meta-analysis of randomised controlled trials [10]. These findings are relevant to one component of the present model the inclusion of movement but cannot, in themselves, account for the change observed in the present study. The aquatic environment also has a specific place within the work undertaken. It was not introduced on the assumption that water itself treats anxiety. Recent studies indicate that aquatic exercise can be used with older adults and has been associated with changes in physical functioning, balance, and movement [11]; [12]; [13]. Within the present model, however, the water serves a different purpose: it provides an environment for action in which the symbolically represented burden is initially experienced as resistance, after which the same object is used as a source of support. The aquatic stage cannot therefore be separated from the work that precedes it. Self-regulation in the present study is not treated as a general or abstract quality. It is associated with specific actions: recognising the onset of tension, naming the anxious thought, attending to one's own response, and determining what can be done when a similar state occurs again. For this reason, the final part of the model concludes with an action formulated personally by the participants rather than with an assessment or interpretation provided by the facilitator. The results do not permit the conclusion that the model treats anxiety. The questionnaire records change in anxiety symptoms; it does not establish a clinical diagnosis. Nor can it be determined whether the observed reduction persists after completion of the study, since no follow-up assessment was conducted. The sample was limited to 60 women of retirement age, and the findings should therefore not be generalised to all people within this age group.

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