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# Conceptions of Learning, Well-being, and Creativity in Older Adults\*

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## CONCEZIONI DELL'APPRENDIMENTO, BENESSERE E CREATIVITÀ NEGLI ANZIANI

### ABSTRACT

*The goal of this study is to investigate the conceptions of learning shared by older adults and to assess the relationships of such conceptions with creativity and satisfaction with life. A sample of 322 older adults (mean age = 72 years) attending Universities of the Third Age were administered the shortened version of a questionnaire aimed at capturing opinions and feelings associated to learning, a task from the Torrance Tests of Creative Thinking, and the Satisfaction with Life Scale. Age, gender, schooling, occupation, marital status, and hobbies of the participants were taken into account. Factorial analyses showed that different conceptions of learning can be identified and that some of them are affected by age, gender, and the hobbies practised by the respondents. Older participants and women considered learning as an interpersonal and focused process to a larger extent. Older participants expressed negative feelings about learning, whereas women expressed positive feelings. Satisfaction with life changed according to marital status with*

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\* Sono attribuibili a Rosa Cera i paragrafi 1, 2, 3 e le References; sono attribuibili ad Alessandro Antonietti e Carlo Cristini i paragrafi 4, 5, 6.

*married people scoring higher. Creative skills decreased with age and were influenced by gender, level of education, marital status, and hobbies practiced. Associations between conceptions of learning and satisfaction with life and creativity emerged. Implications for interventions addressing older adults' well-being are discussed.*

*Keywords:* Ageing; Conceptions of learning; Creativity; Satisfaction with life; Well-being.

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## 1. INTRODUCTION

In recent times a remarkable demographic transformation has occurred in many countries, resulting in an increase in life expectancy (Angelini *et al.*, 2012; Lin & Huang, 2013; Hung & Lu, 2014; Boulton-Lewis *et al.*, 2016; Boulton-Lewis *et al.*, 2017). This demographic trend has led to an increase in the demand for adult education which has prompted the foundation of many Universities of the Third Age (U3As) to promote lifelong learning also for senior citizens, who are still interested in acquiring new notions and skills and who perceive still being asked to play an important role in society (Boulton-Lewis & Tam, 2012). This stresses the need to ascertain how older people conceive learning and if such a conception is associated with the ability to generate novel and appropriate ideas, which can fuel learning and well-being, which should be the ultimate goal of the commitment to continuing learning.

The concept of «lifelong learning» was first proposed in the 1919 Report of the Adult Education Committee, Ministry of Reconstruction in Great Britain (Ireland & Spezia, 2014). This report stressed the importance of education throughout one's entire lifetime. The concepts of «later life learning» and «long-life learning» – which emerged later – are similar, because they both emphasise the benefits that older adults derive from continuing to learn (Mestheneos & Withnall, 2016; Withnall, 2016).

U3As are usually considered the centre of lifelong learning. In France U3As are incorporated into the traditional university system and have a very formal structure. The French model has been followed in Belgium, Canada, Poland, Spain, Switzerland, and the U.S.A. (Formosa, 2010). In the United Kingdom, U3As have always been inspired by a less formal education type, because they were born in clubs and associations (Groombridge, 1982). This model of U3A was based on mutual self-help learning, but not academic education, and the goal was to help senior citizens to

improve their quality of life. In recent times, due to demographic changes and the new and different educational needs of older adults, U3As have had to revisit their educational goals. Today, the primary educational purpose of U3As is to allow older adults to «learn to learn again» through creative adjustments, which are needed to face the new challenges that ageing imposes on people, so that they can be enabled to take care of their health and well-being (Corrigan, McNamara, & O'Hara, 2013; Talmage *et al.*, 2016). On such a basis, it can be conjectured that a positive view of learning is associated with high levels of creativity and satisfaction with life. This study was aimed at testing the existence of correlations between these variables.

Some studies have shown that learning helps older adults to tackle age-related changes positively through specific coping strategies (Liang, Wei, & Lee, 2014). The element of «loss» (loss of partner, work, or health) seems, for example, to influence learning both positively and negatively. For many older adults «loss» was a catalyst for engaging in learning. For instance, old people are induced to learn more about their health and conditions they had been diagnosed with in order to cope with the consequences produced by the disease or illness they are affected (Riva *et al.*, 2012; Riva *et al.*, 2014). In addition, for some people «loss» (particularly of job or partner) created extra-time in their lives, which was filled by learning. However, «loss» can also be a barrier to learning, particularly loss of vision or memory (Boulton-Lewis *et al.*, 2017). Hence, the «losses» that older adults suffer can be overcome through later-life learning, which offers them several benefits, such as improving physical and emotional well-being (Findsen & Formosa, 2011), stimulating cognitive (Cao, Lacruz, & Pais, 2011) and emotional (Weinstein, 2004) functions, preventing symptoms of depression and anxiety (Boulton-Lewis, 2010; Withnall, 2010; Jenkins, 2012), developing intense social relationships (Withnall, 2010; Jenkins & Mostafa, 2015), enhancing quality of life and health (Feinstein & Hammond, 2004; Jenkins, 2011; Parks, Evans, & Getch, 2013; Park, Lee, & Dabelko-Schoeny, 2016), and supporting self-esteem (Escolar Chua & de Guzman, 2014). Learning plays an important role because it should help older adults to rearrange their lives in the best way, caring for their own interests and taking care of their own and of others' well-being (Istance, 2015).

In stimulating older adults to learn again in later life, creativity is fostered as well. Some studies have highlighted the relationships between learning, well-being, and creativity in older adults (Zhang & Niu, 2013; Tam & Chui, 2016). Engagement in learning allows older people to become aware of the psychological resources they have and to activate

them. In doing so, a specific goal that individuals have to achieve is to adapt their background knowledge and experience to the novel situations they are facing, and this involves creativity (Andolfi *et al.*, 2016). Cultivating creativity has in turn positive effects on older adults in terms of well-being and quality of life (Goulding, 2012; Åberg, 2016).

### 1.1. *Conceptions of learning in late adulthood*

Learning in later life differs considerably from learning in younger adulthood in various dimensions (Kim & Merriam, 2004; Duay & Bryan, 2008). For instance, the reasons why older people want to learn are different: personal growth, pleasure in understanding something new, adjusting to the process of getting old (Boulton-Lewis, Buys, & Lovie-Kitchin, 2006). McClusky (1974) argued that older adults are motivated to learn by five types of needs: coping (understanding how to handle the changes caused by ageing), expression (need to engage in meaningful activities), contribution (offering their contribution to society), influence (affecting others positively), and transcendence (overcoming limitations due to age). The objectives of older adults' learning are aimed in particular at developing reflective modes of thinking, to contemplate the meaning of life, to come to terms with their past, and to hone their quest for self-fulfilment and spiritual advancement (Findsen & Formosa, 2011).

Even though learning has common features at all ages (Mercken, 2010; Tam, 2014) – since it is characterised by being a transformational process, in which people attribute meaning to their own life experiences through critical and reflective thinking – the factors that differentiate older adults' learning from learning by young people is the strong influence that long-life experience exerts on the learning process. Hence learning in later life is characterised by diversity and heterogeneity. As a consequence, in planning learning activities addressed to older adults the particular educational needs and cultural interests of older people have to be taken into account and the teaching strategies should be based on a dialogue between educators and learners. For instance, studies have shown that the cultural interests of older people relate to philosophy, arts, and human sciences in general, because these disciplines allow the person to reflect on the meaning and value of life (Findsen & Formosa, 2011). It is important, therefore, that instructors are sensitive to the learning characteristics of older adults and that they not only provide adequate learning materials, but also take care of the different learning visions that older people share. This stresses the need to consider older adults' naive conceptions of learning.



People develop personal beliefs and ideas about the learning processes in which they are involved. They have some opinions about what learning means, about where, when, and how it occurs, about what happens in their minds while they are learning. These sets of beliefs have been labelled as «folk conceptions of learning», or more simply «conceptions of learning».

During recent decades, studies have explored conceptions of learning to highlight their nature and internal structure, as well as their causal role in modulating behaviours and practices (Mezirow, 1991). According to Marton and Säljö (1984), conceptions of learning refer to cognitive activities that the individual thinks he/she has to carry out in order to learn. Thus, the content of such conceptions is defined by the set of mental procedures activated when one learns. Marton and Säljö (1979) started the phenomenographic tradition, in which qualitatively distinct conceptions of learning have usually been identified: learning as a quantitative increase in knowledge; learning as memorising; learning as acquiring facts, skills, and methods that can be retained and used as necessary; learning as making sense or abstracting meaning; learning as interpreting and understanding reality in a different way. Subsequently, Van Rossum and Taylor (1987) added a further conception of learning, understanding as a conscious process, fuelled by personal interests and directed at changing society. These authors also found that older students tended to hold more sophisticated conceptions than younger ones. Purdue and Hattie (2002) investigated the learning conceptions of high-school students. Six conceptions of learning emerged from their study: gaining information; remembering, using, and understanding information; performing a duty; personal change; a process not bound by time or place; social competence.

Marton, Dall'Alba and Beaty (1993) considered conceptions of learning as basic theories about the mind which are specified according to the way the individual's intentions at the beginning of the task are connected to the strategies activated to carry it out. On the contrary, Vermunt (1996) argued that conceptions of learning are mental models defined by a set of beliefs about learning and associated phenomena (thinking activities involved, characteristics of the learner, of the tasks, goals etc.). The definition of conceptions of learning in terms of mental models deepens the structural dimension, which should be specific according to the domain. According to Klatter, Lodewijks and Arnoutse (2001) conceptions of learning are a cluster or a coherent system of interrelated beliefs concerning goals, regulation, needs, affective connotations, and mental activities. There are several studies on the conceptions of learning of high-school students, but the conceptions of learning of older adults have never, as far as we know, been investigated.

## 1.2. *Well-being and creativity in old age*

The World Health Organization (WHO, 2015) stated that abilities to learn, grow, and make decisions include efforts to continue to learn and apply knowledge, problem solving, continue personal development, and effective decision making. Continuing to learn enables older people to have the knowledge and skills to manage their health, to keep abreast of developments in information and technology, to participate (for example, by working or volunteering), to adjust to ageing (for example, to retirement, widowhood, or becoming a caregiver), and to maintain personal identity and interest in life.

Various descriptions are used to depict the desirable state of ageing where quality of life is being maintained. These descriptions include positive ageing (Minichiello & Coulson, 2005), active ageing (WHO, 2002), and successful ageing (Rowe & Kahn, 1998). They all offer a positive, multi-dimensional approach with emphasis on the importance of maintaining and fostering well-being of people as they assume that what is expected is not only the absence of illness and ailments typical of old age, but also subjective satisfaction with life, participation in social life, and maintenance of mental resources (Rebagliati *et al.*, 2016; Sciumè *et al.*, in press).

The main goal of later-life learning should be to increase the number of older adults who acquire new abilities, which have a direct impact on their well-being and their quality of life. Among these abilities there is creativity (Zimmerman, 2009). Creativity can also be an important component in old age, as demonstrated by numerous studies (Foos & Boone, 2008; Parisi *et al.*, 2014). Older adults are proficient in generating creative and integrative interpretations of random combinations since access to semantic representations remains intact during ageing (Marshall & Coblenz, 2014). Creativity is part of the cognitive reserve (Palmiero, Di Giacomo, & Passafiume, 2014) and cognitive stimulation aimed at supporting active ageing or reducing the risk of dementia should therefore also rely on this life skill. Thinking in a creative and flexible manner thus is a resource and a protection factor, becoming a way of expressing oneself and leading to an improvement in the quality of life.

In the past, some studies highlighted an important role of creativity in bringing psycho-physical benefits to older adults (Ray & Anderson, 2000). However, in recent years only a reduced number of studies have explored the role of creativity in the different phases of existence (Sasser-Coen, 1993), and in particular in the third age (Roskos-Ewoldsen, Black, & McCown, 2008), with a focus on the outcome of well-being (Price &

Tinker, 2014). Creative activity prompts active ageing, promoting the development of problem-solving skills that can be transferred into a useful practice for day-to-day activities typical of older adults (Colautti *et al.*, 2018). The literature reveals the existence of a positive relationship between successful ageing and creativity, demonstrating that this life skill can favour a positive and integrated ageing process, including cognitive functionality. Cohen (2001) reported that expressive creation has a positive influence on older adults' health through four underlying mechanisms: sense of control in mastering new activities, influence of the mind on the body and its effects on the immune system, cerebral plasticity (favoured by cognitive changes resulting from creative activity), and social engagement in groups.

Older people can express latent potential through specific creative activities such as writing (Biaassoni *et al.*, 2014), art (Moody & Phinney, 2012), or music (Antonietti & Colombo, 2012; Habron *et al.*, 2013; Antonietti *et al.*, 2014). For those at risk who did not go to college and were not challenged in their work, leisure/intellectual activities pursued over a lifetime – such as playing music or reading and studying – also kept the brain fit and postponed the onset of the disease since it is now thought that damage to the brain can occur several decades before any symptoms appear (Ray & Davidson, 2014).

In general, engagement in creative activities can lead to many benefits, including self-esteem improvements, greater sociality, and better overall health indicators (Colombo, Antonietti, & Daneau, 2018). Creativity can therefore be considered as a psychological capital, namely, a strong point of the subject that, if cultivated, can contribute to the psycho-physical well-being of the person in the course of ageing.

## 2. RESEARCH AIMS

The overall purpose of the study reported here was to capture conceptions of learning, creativity, and satisfaction with life in older adults. Surprisingly enough, as far as the authors are aware, conceptions of learning have never been investigated in older learners attending U3As.

Since, as considered before, learning in old age both needs and stimulates creativity, possible relations between naïve conceptions of learning and creative skills might be examined. Finally, because high levels of creativity are usually associated with high levels of well-being, also relationships between these two dimensions and conceptions of learning merit investigation. The relevant scientific literature mentioned before induces us to pre-

dict that participants sharing a conception of learning in which the active and emotionally positive involvement of the learner is stressed should show creative skills and report a general state of well-being.

Some studies have shown that demographic characteristics such as age, gender, or activities such as hobbies and behaviours determining the lifestyles can influence the quality of learning in older adults. As gender in learning by older people is concerned, it has been reported that women are more positively inclined to learning than men (Williamson, 2000). However, the influence of demographic characteristics (age, gender, marital status, schooling, job, hobbies) on the conceptions of learning in the older adults has been never investigated and so exploring such an influence is among the goals of the present study.

Furthermore, learning in the older adults has been investigated in relation to creativity, demonstrating that it decreases with age, but can be stimulated through appropriate educational interventions (Tsai, 2012). In addition, a correlation between learning experiences and life satisfaction has been documented (Escuder-Mollon *et al.*, 2014). Since relationships between learning, creativity, and satisfaction of life have been never studied in old people, a systematic analysis of this set of relations merits to be conducted.

The specific objectives of the study were threefold. The first goal was to analyse older adults' views about learning by testing the possible influence of gender, age, level of education, marital status, professions, and hobbies cultivated by respondents. Secondly, the study aimed at investigating dimensions of creativity such as flexibility, fluidity, and originality in older adults. Such a topic has received little attention and is worth deepening. The third goal was to assess the relationships between conceptions of learning, creativity, and satisfaction with life.

### 3. METHODS

#### 3.1. *Participants*

The participants belonged to a convenient sample consisting of 322 adults (20% men, 80% women) enrolled in different U3As in Milan, Italy. The respondents, who were all retired, were asked about their gender, age, school qualification obtained, marital status, profession practised in the past, and hobbies cultivated. Not all participants reported all the requested

personal data. This explains why the number of respondents varies across the analyses.

The age of participants ranged from 62 to 92 years (mean = 72.96; SD = 7.81). The inspection of the distribution of age, which showed approximately three peaks (correspondingly roughly to three modes) induced us to divide in some analyses the sample of respondents into three age levels: less than 70 years (45%), from 70 to 76 years (29%), and more than 76 years (26%).

Regarding marital status, participants were distributed as follows: 51% married, 14% unmarried, 31% widow(er)s, and 4% divorced. Regarding the level of education reached, 39% of the sample obtained a primary or junior-secondary school diploma and 61% a high school or university degree. Schooling was not significantly associated to age [ $X^2(6, N = 318) = 10.67, p = .061$ ] and gender [ $X^2(3, N = 319) = 4.63, p = .201$ ].

The different occupations were collapsed into two categories so as to have two groups with a substantial number of participants. The first category includes people who were working as employees (74%), whereas the second category includes self-employed workers (freelance) and traders (26%).

The hobbies mainly cultivated which were reported by respondents were classified into five categories: sport, social activities, cultural interests, artistic activities, and manual activities. Sport was practised by 25% of the sample, cultural activities by 45%, activities based on social relationships by 8%, art by 10%, and manual hobbies (such as decoupage or gardening) by 12%. These categories of hobbies include also voluntary activities which could concern each of the mentioned fields (for example, volunteering as a coach assistant in managing a soccer team with disabled people or volunteering as a librarian in a cultural centre).

### *3.2. Instruments*

Questionnaire About the Popular Conceptions of Learning (QAPCOL; Pérez-Tello *et al.*, 2005). The shortened version of the questionnaire was employed to recognise the model of learning older adults had in mind. Since existing questionnaires on folk conceptions of learning are based almost exclusively on school education, they appeared to be not relevant to the aims of this study. Instead, QAPCOL is relatively independent of the school context and more focused on issues which are important for adults' learning, and so it was used, even though some items needed to be adapted to the context of U3As and the overall number of items had to be reduced to avoid excessive effort and fatigue in filling it in.

The version of the questionnaire which was used in this study consists of two sections with a total of 21 items. The first section includes 9 items related to beliefs about the learning process and the second section includes 12 items relating to feelings and personal meanings related to the learning experience. The questionnaire was given to respondents in Italian. In order to share this new, adapted version of the questionnaire a back-translation which involved the authors of the instrument and a native English-speaking psychologist, who was expert in the field of social research, was carried out. The English translation is available in the Appendix. Items consist of statements about issues such as: conceiving learning as addressed at imitating an expert model, conceiving learning as a matter of involvement and discussion, conceiving learning as a personal thought activity, conceiving learning as a process needing concentration and commitment, conceiving learning as a negative experience, conceiving learning as having opportunities to test one's skills, conceiving learning as a matter of will and pleasure, duty and challenge. The respondents were asked to express their level of agreement or disagreement on a Likert scale (ranging from 1 = minimum to 3 = maximum) about each statement. The psychometric properties of the questionnaire have been fully tested (Perez-Tello *et al.*, 2005; Cantoia *et al.*, 2011).

Torrance Test of Creative Thinking (TTCT; Torrance, 1990). The Alternative Uses task from the TTCT was used. Participants were asked to produce the most imaginative and creative ideas about how to use a carton box. Creativity indexes were computed according to the TTCT manual. *Fluidity* corresponded to the number of ideas generated, *flexibility* was the number of categories ideas belong to, and *originality* was idea infrequency.

Satisfaction with Life Scale (SWLS; Diener *et al.*, 1985). The self-report questionnaire is based on the assumption that satisfaction with life is a factor within the more general outline of well-being. Life satisfaction is considered as the result of a judgement process referring to all aspects of existence according to the personal criteria of the interviewed (Pavot & Diener, 1993). According to the authors of the scale, people, in formulating their answer, compare their perceived living circumstances with a standard that they feel appropriate for themselves. The level of satisfaction is therefore much higher as the living conditions come closer to it. The focus on global satisfaction allows respondents to weigh the domains of their lives with their values, criteria, and standards. The scale includes 5 items. Respondents indicated their degree of agreement on a 7-point Likert scale (from 1 = no agreement to 7 = I agree very much) and the scores are then added to obtain a total index.

### 3.3. Procedure

The three instruments were administered face-to-face. The researcher illustrated not only the research tools, but also explained the objectives of the study to the participants.

The administration of the tests began only after the approval of the board of directors of the U3As involved in the study and within a general project about the relationships between creativity and well-being in the adulthood which had been approved by the ethical committee of the Catholic University of the Sacred Heart in Milan.

Participants were informed in good time, before starting data collection, of the opportunity to take part to the investigation. Participation was on a voluntary basis and participants were told that they could withdraw in any moment. They were not asked to sign a written consent because no sensible issues were involved in the research instruments which were applied. Anonymity was granted.

The research tools were administered individually without time restrictions in rooms of the U3As attended by the participants.

## 4. ANALYSES

Data were analysed in three steps.

The first step concerned the investigation of the internal structure of the shortened version of the QAPCOL. Since this version of the questionnaire has not been used previously, the possible existence of components in each of the two sections of the instrument had to be tested. Hence, two separate exploratory factor analyses were conducted by considering the items of the two sections of the QAPCOL. As for the other two instruments applied to the participants, this step was not needed since they had been validated previously.

The second step consisted of testing whether the personal characteristics of the participants – such as age, gender, level of education, kind of occupation, hobbies, and marital status – affected scores in the QAPCOL, the creativity task, and the SWL scale.

The third step concerned the relationships between conceptions of learning, creative skills, and satisfaction with life.

The rationale supporting these analyses, as well as the associated hypotheses, has been explained in the introduction.

## 5. RESULTS

### 5.1. Internal Structure of the QAPCOL

Factor analysis (Principal Component Analysis – PCA) was applied to the 9 items constituting the first section of the QAPCOL. The Scree-test suggested extracting three factors, which explained cumulatively 52.12% of the variance. Item 9 was excluded since it loaded Factor 1 and 2 to a similar extent. The matrix resulting from the Oblimin rotation is reported in *Table 1*. The first factor is loaded mainly by items where *interpersonal* aspects of learning are stressed. The second factor includes items sharing the idea that learning is a *focused* process involving attention and effort. The third factor is associated with an *individualistic* view of learning. The values of the Cronbach's alpha computed for each subscale, corresponding to the set of items identified through the factor analysis, were, respectively: .47, .36, .35.

As the second part of the QAPCOL, PCA led to extracting two factors and to excluding items 2 and 12 since they had similar, low loadings on both factors. The overall percentage of variance explained was 45.72%. The resulting matrix after Oblimin rotation is reported in *Table 2*. The first factor refers to the *negative* mental states elicited by learning, including the anxious aspects of facing challenges. The second factor embraces, by contrast, the *positive* feelings produced by learning and the absence, as suggested by the negative loading, of boredom (item 4). The values of the Cronbach's alpha computed for each subscale, corresponding to the set of items identified through factor analyses, were, respectively, .61 and .38.

*Table 1. – Matrix resulting from the factor analysis applied to the first section of the QAPCOL after Oblimin rotation.*

ITEM	FACTOR		
	1	2	3
4	<b>.808</b>	-.019	-.028
1	<b>.765</b>	-.092	.069
5	<b>.517</b>	.379	-.054
2	-.062	<b>.725</b>	-.148
3	.088	<b>.647</b>	-.028
7	-.058	<b>.626</b>	.252
6	.218	-.071	<b>.724</b>
8	-.186	.072	<b>.663</b>

*Note:* Eigenvalue: 1.79, 1.33, 1.06; % of variance explained: 22.37, 16.60, 13.19.



*Table 2. – Matrix resulting from the factor analysis applied to the second section of the QAPCOL after Oblimin rotation.*

ITEM	FACTOR	
	1	2
7	<b>.790</b>	.077
10	<b>.629</b>	-.121
3	<b>.615</b>	-.043
8	<b>.570</b>	-.425
6	<b>.545</b>	-.282
1	<b>.434</b>	.202
5	.019	<b>.780</b>
4	.068	<b>-.699</b>
9	.055	<b>.665</b>
11	-.032	<b>.579</b>

Note: Eigenvalue: 3.12, 1.45; % of variance explained: 31.20, 14.52.

## *5.2. Effects of personal characteristics on conceptions of learning, satisfaction with life, and creativity*

### *5.2.1. Conceptions of learning*

Factorial scores derived from previous factor analyses were considered as dependent variables and personal characteristics as independent variables. ANOVAs were computed to test possible effects of the latter variables on the former ones. When the independent variable had more than two levels, the Newman-Keuls post-hoc test was applied to identify differences between subgroups of participants: Differences were considered statistically significant by assuming  $p < .05$ .

The age level influenced factorial scores in 3 cases out of 5 (*Tab. 3*). Both the conception of learning as an interpersonal and focused process turned out to be shared by the oldest participants to a larger extent than by the younger ones. The same was true in the case of negative feelings. As far as factorial scores associated with interpersonal aspects and negative emotions are concerned, the post-hoc test showed a significant difference between the first and the third age level (respectively,  $p = .001$  and  $p < .001$ ), whereas differences between the first and the second level, as well as the second and the third levels, were not significant. In the case of scores concerning learning as a focused process, the oldest participants shared such a

view to a significantly larger extent than the other two groups (respectively,  $p < .001$  and  $p = .008$ ), whose difference was not statistically significant.

Table 3. – Mean factorial scores (and SDs) in the QAPCOL according to age and outcomes of the ANOVAs.

Factorial Score	Age level	Mean	SD	$F_{1,276}$	P	Partial eta-squared
Section 1	below 70 yrs.	-0.249	1.349			
Factor 1: Interpersonal	70-76 yrs.	0.0282	0.958	3.572	.029	.025
	over 76 yrs.	0.153	0.579			
Section 1	below 70 yrs.	-0.342	1.099			
Factor 2: Focused	70-76 yrs.	-0.153	0.981	7.847	< .001	.054
	over 76 yrs.	0.239	0.798			
Section 1	below 70 yrs.	0.031	1.064			
Factor 3: Individualistic	70-76 yrs.	-0.139	0.963	2.334	.099	.027
	over 76 yrs.	0.223	1.070			
Section 2	below 70 yrs.	-0.110	0.813			
Factor 1: Negative feelings	70-76 yrs.	0.181	1.060	6.976	< .001	.049
	over 76 yrs.	0.468	1.323			
Section 2	below 70 yrs.	0.103	0.929			
Factor 2: Positive feelings	70-76 yrs.	-0.058	1.183	0.719	.488	.005
	over 76 yrs.	-0.019	0.907			

As gender, statistically significant differences emerged in factorial scores concerning the interpersonal aspects of learning and positive feelings, where women showed higher scores than men (*Tab. 4*).

Levels of education were collapsed into two categories (low = primary + junior-high school vs. high = high school + university) so as to avoid having groups of participants with too low a number of members. No significant difference between the two collapsed levels of education emerged in all factorial scores (*Tab. 5*). In no case were factorial scores affected by the kind of occupation in a significant way (*Tab. 6*). Marital statuses were collapsed so to have a group coinciding with cohabitant (namely, married) participants and the other group embracing participants living alone (single = unmarried + widow(er) + divorced). Factorial scores were not influenced by the collapsed marital status (*Tab. 7*). The same was true by considering the original classification of the marital status assessed on four levels as the independent variable.

*Table 4. – Mean factorial scores (and SDs) in the QAPCOL according to gender and outcomes of the ANOVAs.*

Factorial Score	Gender	Mean	SD	$F_{1,276}$	p	Partial eta-squared
Section 1 Factor 1: Interpersonal	Men	-0.380	1.664	6.052	.014	.021
	Women	0.014	0.878			
Section 1 Factor 2: Focused	Men	-0.117	1.101	0.090	.765	.001
	Women	-0.164	1.048			
Section 1 Factor 3: Individualistic	Men	0.169	0.939	1.216	.271	.004
	Women	-0.001	1.065			
Section 2 Factor 1: Negative feelings	Men	0.136	1.108	0.025	.874	.001
	Women	0.111	1.042			
Section 2 Factor 2: Positive feelings	Men	-0.459	1.862	17.669	< .001	.061
	Women	0.151	0.550			

*Table 5. – Mean factorial scores (and SDs) in the QAPCOL according to level of education and outcomes of the ANOVAs.*

Factorial Score	Level of Education	Mean	SD	$F_{1,276}$	p	Partial eta-squared
Section 1 Factor 1: Interpersonal	Low	-0.070	1.145	< 0.001	.996	< .001
	High	-0.069	1.067			
Section 1 Factor 2: Focused	Low	-0.533	0.955	1.691	.199	.004
	High	-0.594	1.120			
Section 1 Factor 3: Individualistic	Low	0.047	1.061	0.033	.856	< .001
	High	0.024	1.037			
Section 2 Factor 1: Negative feelings	Low	0.285	1.248	3.810	.052	.014
	High	0.025	0.924			
Section 2 Factor 2: Positive feelings	Low	0.074	1.214	1.637	.202	.006
	High	0.087	0.863			

*Table 6. – Mean factorial scores (and SDs) in the QAPCOL according to kind of occupation and outcomes of the ANOVAs.*

Factorial Score	Occupation	Mean	SD	$F_{1,276}$	p	Partial eta-squared
Section 1 Factor 1: Interpersonal	Employee	-0.082	1.164	0.042	.838	< .001
	Self-employed	-0.051	0.894			
Section 1 Factor 2: Focused	Employee	-0.178	1.088	0.453	.501	.002
	Self-employed	-0.079	0.987			
Section 1 Factor 3: Individualistic	Employee	0.017	1.044	0.156	.693	.001
	Self-employed	0.073	1.062			
Section 2 Factor 1: Negative feelings	Employee	0.105	1.083	< .001	.998	< .001
	Self-employed	0.104	0.935			
Section 2 Factor 2: Positive feelings	Employee	0.0635	.897	0.333	.564	.001
	Self-employed	-0.016	1.173			

*Table 7. – Mean factorial scores (and SDs) in the QAPCOL according to marital status and outcomes of the ANOVAs.*

Factorial Score	Marital status	Mean	SD	$F_{1,276}$	p	Partial eta-squared
Section 1 Factor 1: Interpersonal	Cohabitant	-0.065	1.103	< .001	.987	< .001
	Single	-0.067	1.093			
Section 1 Factor 2: Focused	Cohabitant	-0.198	1.064	0.590	.443	.002
	Single	-0.101	1.058			
Section 1 Factor 3: Individualistic	Cohabitant	0.000	1.009	0.308	.579	.001
	Single	0.070	1.083			
Section 2 Factor 1: Negative feelings	Cohabitant	0.025	0.957	2.645	.105	.010
	Single	0.235	1.164			
Section 2 Factor 2: Positive feelings	Cohabitant	0.018	1.061	0.005	.946	< .001
	Single	0.026	0.946			

As hobbies, significant differences were observed only in negative feelings: Persons practising manual activities obtained scores significantly higher than those recorded in the other groups (p values ranging from .049 to .001), who failed to differ from each other in a significant way (*Tab. 8*).

*Table 8. – Mean factorial scores (and SDs) in the QAPCOL according to hobbies and outcomes of the ANOVAs.*

Factorial Score	Hobby	Mean	SD	F <sub>4 276</sub>	p	Partial eta-squared
Section 1 Factor 1: Interpersonal	Sport	-0.050	0.967	0.986	.416	.015
	Social	0.324	0.329			
	Cultural	-0.078	1.047			
	Artistic	-0.212	1.405			
	Manual	-0.255	1.545			
Section 1 Factor 2: Focused	Sport	-0.131	1.092	0.724	.576	.011
	Social	-0.374	1.073			
	Cultural	-0.233	1.092			
	Artistic	-0.0342	1.212			
	Manual	0.0348	.862			
Section 1 Factor 3: Individualistic	Sport	0.230	1.122	0.937	.443	.014
	Social	0.163	0.832			
	Cultural	-0.0145	1.055			
	Artistic	-0.159	0.909			
	Manual	0.002	1.064			
Section 2 Factor 1: Negative feelings	Sport	0.231	1.044	4.197	.003	.062
	Social	0.031	.864			
	Cultural	0.011	.937			
	Artistic	0.205	.547			
	Manual	0.737	1.589			
Section 2 Factor 2: Positive feelings	Sport	0.069	1.144	0.953	.434	.015
	Social	-0.035	0.977			
	Cultural	0.151	0.744			
	Artistic	0.020	0.941			
	Manual	-0.206	1.223			

### 5.2.2. Creativity and satisfaction with Life

Age failed to affect scores in the SWL scale and fluidity, whereas it was influential on flexibility and originality, which were low in the eldest group and high in the youngest (*Tab. 9*). Flexibility scores differed significantly

between all three age levels (Under 70 vs. From 70 to 76:  $p = .048$ ; Under 70 vs. Over 76:  $p < .001$ ; From 70 to 76 vs. Over 76:  $p = .029$ ), whereas differences in originality between the youngest and the eldest were statistically significant ( $p = .008$ ) according to the post-hoc tests.

Table 9. – Mean creativity and SWL scores (and SDs) according to age and outcomes of the ANOVAs.

	Age	Mean	SD	$F_{1,276}$	p	Partial eta-squared
Fluidity	Under 70	3.29	1.507	1.302	.274	.015
	From 70 to 76	2.95	1.572			
	Over 76	2.93	2.487			
Flexibility	Under 70	1.80	0.787	9.514	< .001	.061
	From 70 to 76	1.59	0.678			
	Over 76	1.37	0.578			
Originality	Under 70	0.91	0.971	3.452	.033	.023
	From 70 to 76	0.74	0.990			
	Over 76	0.55	0.873			
SWL	Under 70	23.47	5.514	0.354	.702	.002
	From 70 to 76	22.88	6.520			
	Over 76	23.56	6.149			

Gender produced statistically significant differences only in flexibility scores, with men outperforming women (*Tab. 10*). Flexibility was also the only score affected by the level of education (*Tab. 11*): Participants with the highest degree of schooling outperformed those with the lowest level. The kind of occupation did not yield significant differences in creativity and life satisfaction (*Tab. 12*). Marital status affected fluidity and satisfaction with life: Cohabiting people obtained higher scores (*Tab. 13a*). By considering the four levels of marital status, significant differences also emerged in flexibility and originality scores, with divorced individuals outperforming the other groups, which were not significantly different from each other (*Tab. 13b*).

*Table 10. – Mean creativity and SWL scores (and SDs) according to gender and outcomes of the ANOVAs.*

Score	Gender	Mean	SD	F <sub>1 276</sub>	p	Partial eta-squared
Fluidity	Men	3.22	1.212	0.073	.416	.005
	Women	3.07	1.537			
Flexibility	Men	1.87	0.761	7.897	.005	.026
	Women	1.56	0.703			
Originality	Men	0.87	0.981	0.819	.366	.003
	Women	0.74	0.952			
SWL	Men	24.566	6.032	3.225	.074	.010
	Women	23.028	5.939			

*Table 11. – Mean creativity and SWL scores (and SDs) according to level of education and outcomes of the ANOVAs.*

Score	Level of Education	Mean	SD	F <sub>1 276</sub>	p	Partial eta-squared
Fluidity	Low	3.21	1.147	1.003	.476	.006
	High	3.10	1.1.58			
Flexibility	Low	1.44	0.688	12.237	.001	.040
	High	1.74	0.723			
Originality	Low	0.76	0.997	< .001	.986	< .001
	High	0.76	0.936			
SWL	Low	22.588	6.742	3.010	.084	.010
	High	23.803	5.440			

*Table 12. – Mean creativity and SWL scores (and SDs) according to kind of occupation and outcomes of the ANOVAs.*

Score	Occupation	Mean	SD	F <sub>1 276</sub>	p	Partial eta-squared
Fluidity	Employee	2.70	1.196	2.418	.091	.007
	Self-employed	3.25	1.523			
Flexibility	Employee	1.61	0.709	.007	.934	<.001
	Self-employed	1.62	0.753			
Originality	Employee	0.74	0.927	0.295	.587	.001
	Self-employed	0.81	1.043			
SWL	Employee	23.576	5.841	.833	.362	.003
	Self-employed	22.855	6.344			

Table 13. – Mean creativity and SWL scores (and SDs) according to marital status and outcomes of the ANOVAs.

(a)

Score	Marital status	Mean	SD	F <sub>1 276</sub>	p	Partial eta-squared
Fluidity	Cohabitant	4.01	1.617	4.787	.006	.051
	Single	2.12	1.231			
Flexibility	Cohabitant	1.68	0.736	2.390	.123	.008
	Single	1.55	0.705			
Originality	Cohabitant	0.76	0.977	0.006	.938	.000
	Single	0.77	0.940			
SWL	Cohabitant	24.758	5.449	19.468	< .001	.060
	Single	21.826	6.181			

(b)

Score	Marital status	Mean	SD	F <sub>3 276</sub>	p	Partial eta-squared
Fluidity	Married	4.01	1.617	2.022	.013	.018
	Single	2.37	1.419			
	Widow(er)	2.09	1.328			
	Divorced	1.99	1.298			
Flexibility	Married	1.68	0.736	5.995	.001	.058
	Single	1.51	0.711			
	Widow(er)	1.48	0.650			
	Divorced	2.40	0.699			
Originality	Married	0.76	0.977	4.608	.004	.045
	Single	0.80	0.980			
	Widow(er)	0.64	0.824			
	Divorced	1.80	1.229			
SWL	Married	24.758	5.449	6.955	< .001	.064
	Single	22.023	5.335			
	Widow(er)	21.959	6.423			
	Divorced	19.700	7.273			

The preferred hobby influenced fluidity (*Tab. 14*) but not the other creativity scores or satisfaction with life. People practising artistic activities produced a number of responses which were, according to the post-hoc test, significantly higher than those produced by other groups.



*Table 14. – Mean creativity and SWL scores (and SDs) according to hobbies and outcomes of the ANOVAs.*

Score	Hobby	Mean	SD	F <sub>4 276</sub>	p	Partial eta-squared
Fluidity	Sport	1.37	0.741	3.217	.041	.053
	Social	2.17	0.957			
	Cultural	2.39	0.831			
	Artistic	4.17	1.471			
	Manual	2.02	0.799			
Flexibility	Sport	1.61	0.746	1.709	.148	0.24
	Social	1.73	0.767			
	Cultural	1.64	0.675			
	Artistic	1.81	0.879			
	Manual	1.38	0.639			
Originality	Sport	0.92	1.143	.700	.593	.010
	Social	0.91	1.109			
	Cultural	0.71	0.849			
	Artistic	0.70	0.993			
	Manual	0.73	0.838			
SWL	Sport	23.723	5.641	1.801	.129	.024
	Social	21.695	6.697			
	Cultural	24.031	5.573			
	Artistic	21.517	6.051			
	Manual	22.552	7.138			

### 5.3. Relationships between conceptions of learning, creativity and satisfaction with life

Spearman's rho coefficients were computed to assess associations between the dependent variables. Statistically significant correlations emerged between the individualistic conception of learning and satisfaction with life ( $\rho = .192, p < .01$ ) as well as between the conception of learning as a focused process and fluidity ( $\rho = -.131, p < .05$ ) and flexibility ( $\rho = -.185, p < .01$ ).

## 6. DISCUSSION AND CONCLUSIONS

The aim of this study was to identify the conceptions of learning shared by older adults, a topic which has been scarcely investigated, and to assess their relationships with creativity and satisfaction with life.

The first step was to describe the internal structure of conceptions of learning. It emerged that what older adults think about learning can be included in three different views: learning can be meant as a process where interpersonal aspects are relevant, as a focused process involving attention and effort, or as an individualistic process. The data collected by the QAPCOL provided information not only about the visions of learning of older adults but also about their way of living learning experiences. Factor analysis highlighted that negative and positive feelings are distinct experiences which accompany learning. Hence, also aged people, as well as young and adult individuals, possess precise and consistent opinions about the nature of learning.

The second step was to ascertain whether conceptions of learning are affected by age, gender, marital status, level of education, job and the hobbies practised by the participants. Data showed that older participants consider learning as an interpersonal and focused process to a higher extent as compared to younger participants. Furthermore, the oldest participants have negative feelings about learning more than younger ones. Women reported, unlike men, that they prefer the interpersonal aspects of learning and perceived more positive feelings. Occupational and marital status failed to affect conceptions of learning. Instead, respondents practising manual hobbies expressed negative feelings about learning to a larger extent than interviewees who practise other types of hobbies. Data supported the notion that learning conceptions change according to age, gender, and hobbies practised by older adults.

According to Mezirow (1991), adult learning is based on interpersonal relations and this is mirrored by the first conception of learning that emerged from our factor analysis. The same author also stressed that learning in adulthood is finalised to a specific goal or interest, and this corresponds to the second factor (learning as a focused process). The highest scores in these factors were observed in the oldest participants, who, we can presume, because of their age, are more sensitive to what is specific in adult learning and this gives reason for the effects due to age which were found in the factorial scores. Instead, the highest values of the positive affects associated to learning were reported by younger participants: It is likely that this category experience more enthusiasm when engaged in learning task and this lead them to enjoy more when they are learning (Derksen *et al.*, 2015).

As gender effects, women are usually described as particularly prone to adaptation and change and this explains why they reported positive feelings more than men (O'Leary & Ickovics, 1995).

Regarding creativity, our study took into consideration three specific dimensions, which are commonly investigated: fluidity, flexibility, and

originality. A higher level of creativity was found in the youngest participants and those with the highest level of education. Gender was influential as well, with men outperforming women. Marital status affected creativity scores in a different way: Fluidity was higher in cohabitants whereas flexibility and originality were higher in divorced people. Finally, creativity was enhanced in older adults practising artistic hobbies. Presumably creativity needs an adequate level of intellectual resources, which are reduced in the oldest subsample and in those with less schooling. As for marital status, it is likely that divorced people showed increased flexibility since they had to face novelty once the couple's life had ended, whereas cohabitants generated more ideas thanks to the serenity and regularity in their family life (Friebe & Schmidt-Hertha, 2013). Artistic hobbies were the more relevant to stimulate creativity because they foster imagination.

Satisfaction with life appeared to be a relatively stable construct which was not influenced by age, gender, schooling, occupation, or hobbies. Marital status plays a role since cohabitants reported a higher level of satisfaction compared to divorced and single people. Stability in affective life is important in older adults since it supports people in facing problems and anxiety, resulting in higher psychological well-being (Brown & Kawamura, 2010).

Regarding the relationships between conceptions of learning, satisfaction with life, and creativity, only a few significant associations emerged, so supporting the notion that well-being, as well as happiness, is an autonomous construct (Hitokoto & Uchida, 2015). The individualistic conception of learning was associated with satisfaction with life and the conception of learning as a focused process was associated with fluidity and flexibility.

As far as the first relation is concerned, we can argue that people trusting in personal resources, which allow them to achieve their life goals, are induced to think that learning is based prevalently on individual engagement. As for the second relation, we can presume that creative people perceive the constraints which learning – as a process which has a necessary structure – implies and so are induced to believe that it needs to be concentrated on the goals to be achieved and on the task demands.

Our literature review has not reported any study aimed at detecting the learning conceptions of older adults. Our investigation was aimed at investigating them because we think that these opinions can inform those who are interested in educating older adults. The findings of this study suggest that those who plan education programmes for older people, such as those managing U3As, must consider such conceptions shared by the learners, which are often different and heterogeneous. In addition, given

the preference expressed by older participants for the interpersonal learning process, it would be advisable to stimulate peer learning. This is relevant because women attend U3As more frequently than men (Hung & Lu, 2014) and, as we have seen, they share a different view of learning and tend to perceive it in a more positive way. Stressing other aspects of the learning process which men are sensitive to, such as the non-interpersonal aspects, might induce men to attend U3As.

The present study has some limitations. Firstly, because of the lack of previous studies about the topics addressed in our investigation, it was necessarily explorative and so no highly specific hypotheses could be elaborated. Secondly, a convenient sample was involved in the study. This means that it was rather heterogeneous and the demographic characteristics were not balanced. Thirdly, well-being has been measured through a self-report scale, which may reveal a picture which does not correspond fully to the actual life conditions of the respondents. Future investigations might move from the findings of this study, which should allow researchers to formulate more focused predictions, involve a sample recruited according to specific criteria, and use other well-being indices which can integrate the measure produced by self-report scales.

Nevertheless, the results coming from the present investigation provided a preliminary overview of the conceptions of learning in the older adults and of their relationships with well-being and creativity and contributed to highlight some possible implications of our understanding of such relationships, as the need to develop flexibility and originality in the eldest. In particular, musical, painting, and creative activities in general should be organised for older adults with a lower level of education, male gender, and preferring manual hobbies. Many studies have emphasised the positive role of creative activities on older people (Choen, 2006; Ueno *et al.*, 2015).

In conclusion, the results of our research can be useful to those who want to deal with the education of older adults in general and especially for those who intend to meet the educational needs of learners of U3As. Meeting the educational needs of older adults means first of all knowing conceptions of learning, the personal characteristics of each elder, in addition to their cultural preferences and curiosities.

## APPENDIX

### QUESTIONNAIRE ABOUT POPULAR CONCEPTIONS OF LEARNING (QAPCOL)

#### Section 1

Instructions: *Read each of the following statements and decide whether you agree with them or not. For each statement, write your answer (1 = I disagree, 2 = I neither agree nor disagree; 3 = I agree) in the right column.*

1. People learn by comparing their ideas with those of others
2. Learning is above all a question of concentration and commitment
3. People learn better when listening to an expert's explanation
4. Good teachers push to discuss about what they teach
5. True learning is by observing someone acting and reasoning in a competent way
6. People always have some idea of what they are taught
7. Teaching means showing others what they have to do
8. People learn when they work alone
9. To learn, you have to think and reflect

#### Section 2

Instructions: *How do you feel about learning? For each statement, decide whether you agree with it or not. For each statement, write your answer (1 = I disagree, 2 = I neither agree nor disagree; 3 = I agree) in the right column.*

1. a challenge
2. an opportunity to stay fit
3. fatigue
4. boredom
5. a pleasure
6. a suffering
7. something that worries me
8. something that depresses me
9. something that intrigues me
10. something that scares me
11. being able to understand things well
12. knowing how to deal with situations

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## RIASSUNTO

*Lo scopo dello studio è di indagare le concezioni dell'apprendimento degli anziani e di valutare le relazioni di tali concezioni con la creatività e la soddisfazione con la vita. Un campione di 322 anziani (età media = 72 anni) che frequentano le università della terza età hanno compilato la versione abbreviata di un questionario finalizzato a indagare le opinioni e i sentimenti associati all'apprendimento, una prova del Torrance Test of Creative Thinking e la scala Satisfaction with Life. Sono stati presi in considerazione età, genere, istruzione, lavoro, stato civile e hobbies dei partecipanti. Le analisi fattoriali hanno mostrato che gli anziani condividono diverse concezioni dell'apprendimento e che alcune di esse sono influenzate dall'età, dal genere e dagli hobbies praticati. I partecipanti più anziani e le donne hanno considerato l'apprendimento come un processo interpersonale e mirato. I partecipanti più anziani hanno espresso sentimenti negativi riguardo alle esperienze di apprendimento, mentre le donne provano sentimenti positivi. La soddisfazione con la vita è in rapporto con lo stato civile, le persone sposate hanno ottenuto punteggi superiori. Le abilità creative diminuiscono con il crescere dell'età e sono influenzate da genere, livello di istruzione, stato civile e hobbies praticati. Sono emerse*

*associazioni tra le concezioni dell'apprendimento, la soddisfazione per la vita e la creatività. Sono discusse le implicazioni per gli interventi che riguardano il benessere degli anziani.*

*Parole chiave:* Benessere; Concezioni dell'apprendimento; Creatività; Invecchiamento; Soddisfazione per la vita.

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