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ADULT LEARNERS' SATISFACTION AND ITS RELATION TO CHARACTERISTICS OF THE INDIVIDUAL AND THE EDUCATIONAL INSTITUTION

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KEYWORDS: adult education, participation, satisfaction, adult educator, classroom environment

ABSTRACT: This paper explores satisfactory learning experiences of adult learners in Flemish formal adult education. Satisfaction is an important issue in motivational psychology (Keller, 1987). We use the Comprehensive Lifelong Learning Participation Model (CLLPM) of Boeren et al. (2010a) and explore whether satisfactory experiences relate to characteristics of the individual and/or characteristics of the educational institution. Results reveal that satisfactory learning experiences relate strongly to perceptions of classroom environment.

1. Introduction

Patterns of participation in adult learning reflect inequality in social status in that (Desjardins et al., 2006) adults who are not highly skilled, are unemployed and are over the age of 45 have fewer chances to become adult learners (Boeren et al., 2010). Nevertheless, the European Commission stresses the importance of participation in lifelong learning activities to the effort to become the most competitive knowledge-based society in the world and to attain more social cohesion and active citizenship (European Commission, 2001). Lifelong learning is often perceived as an individual responsibility in dominant neo-liberal contemporary society. However, empirical research shows that participation occurs in a bounded agency between the individual (potential) learners, the educational institutions and the regulating governments in welfare state regimes (Boeren et al., 2010a; Rubenson & Desjardins, 2009). Therefore, motivating and stimulating adults to learn is not only a matter of self-determination but also the task of educational policy and practice (Smith & Spurling, 2001; Boeren, 2010).

Typically, public formal adult education system provides a broad range of programmes, including some developed specifically for disadvantaged groups, such as elementary education and second chance schools. These targeted programs have resulted in an increase in the number of disadvantaged groups participating in adult education.

To stimulate and motivate adults to participate and persist in adult learning, it is valuable to explore the experiences of learners in formal adult education programmes to determine whether their experiences are mostly related to their socio-economic background characteristics, to the educational environment in which their learning is taking place or both. Formal adult education is meant to be accessible for everyone, at least at the lowest level of the curricula, is based on public expenditures and can thus be easily regulated by the government, and provides qualifications after successful course completion, which may be of additional value to adult learners who want to continue pursuing their education at

a higher level or to enter the labour market. To effectively formulate strategies for satisfactory learning experiences, educational policy and practice must reflect the experiences of adult learners.

This paper explores the experiences of adult learners in formal adult learning contexts by means of a comprehensive model constructed by Boeren et al. (2010a). The paper includes an examination of the dependent 'experience' variable in terms of the satisfaction of the adult learners and searches for relations between socio-economic variables and variables related to the learning context.

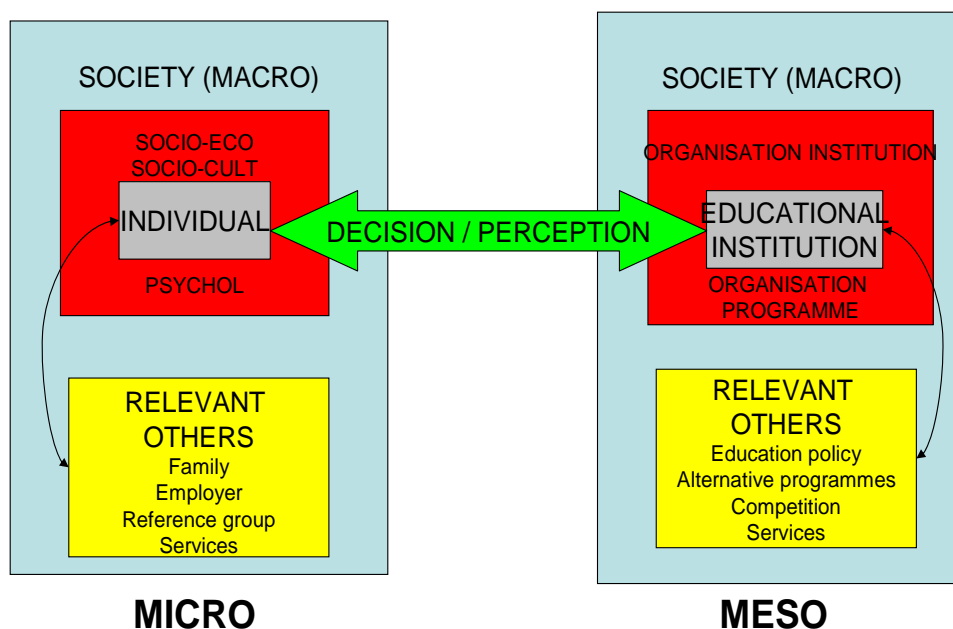
This paper begins with an explanation of Boeren et al.'s (2010a) Comprehensive Lifelong Learning Participation Model (CLLPM) and discusses the rationale behind using satisfaction as the dependent variable. The research methodology, which involves the use of a database on 1,227 Flemish adult learners in a formal adult education system, is then described. The results section explores descriptive and analytical results and then concludes with reflections regarding the model.

2. Conceptual framework

The conceptual framework for this study begins with literature findings that describe how participation in adult education occurs in a bounded agency between individuals, educational institutions and regulating governments in welfare state societies (Boeren et al., 2010a). Existing theories and models related to adult education have focused mainly on the individual aspect of this relationship; however, this rather narrow scope has been expanded by means of the Comprehensive Lifelong Learning Participation Model (CLLPM) constructed by Boeren et al. (2010a) (Rubenson, 1977; Cross, 1981; Darkenwald & Merriam, 1982). The CLLPM consists of two main blocks and is based on the assumption that learning emerges as a 'bounded agency' between the individual and the educational institution and is more or less supported by the regulating government. According to the CLLPM, participation is the result of a positive match between the players and their characteristics. Socio-economic and psychological

characteristics of the individual should match the characteristics of the learning environment and the organisational aspects of the educational programme, including factors like the content of courses. It is the opinion of the Boerens that one important task of the government is to regulate the opportunities available for people to gain education and to give the stakeholders incentives to adjust these opportunities to enable more people to have access to education. In the CLLPM, the required match is indicated by the arrow between the two blocks. Furthermore, a positive perception of the relevant characteristics for participation is important to avoid high dropout rates and to encourage persistence (Keller, 1987). Overall, perception strongly influences the performance of learners, even more so than the objective characteristics of the educational context (Entwistle, 1991).

FIGURE 1: Conceptual Lifelong Learning Participation Model of Boeren et al. (2010a)



Participants in adult education courses will be more successful if they experience feelings of satisfaction related to their participation. Previous research shows that satisfied adult learners persist more, drop out less, experience higher levels of well-being and achieve better learning results (Keller, 1987; Wolf & Fraser, 2008) compared to unsatisfied adult learners.

In fact, satisfaction is a key variable in motivational psychology. Vroom's (1964) Expectancy Value Theory describes motivation as the product of the value and the expectancy attached to a certain task or activity. To have value, an activity has to be perceived as personally meaningful, and a personal need has to be fulfilled. Additionally, a negative judgment of value leads to decreased performance or an increased likelihood of dropping out. Expectancy estimates the level of success and determines whether all aspects of the activity will achieve their purposes. Keller's (1987) motivational theory, which is based on the Expectancy Value Theory, consists of four sequential steps in the development of motivation. First, learning has to be attractive, and people have to be open-minded about participation in education. Basically, a positive attitude is the first condition. Second, a potential student has to recognise the relevance of participation for his or her life. In fact, relevance is the real answer to the 'why' of participation. According to Keller, attitude and relevance explain the 'value' part of his theory. The 'expectancy' part begins with a potential student's perceived confidence in his or her ability to complete a course successfully. The next step is the experience of satisfaction. According to Keller, satisfaction is the most important concept included in the attitude–relevance–confidence–satisfaction cycle (the ARCS cycle). The people who have a positive attitude towards learning, know why they participate in education and have confidence in their own abilities will have a greater chance of dropping out if they do not feel satisfied with various aspects of the learning activity. Value and expectancy are indispensable conditions for fostering continuous motivation among learners. This motivation is necessary to perform successfully and make a meaningful contribution that will benefit both the individual and society.

Within the field of adult education, motivational studies often focus on the aspect of relevance, attempting to answer the question of why people participate. More detailed discussions of relevance and motivation can be found in the work of Houle (1961). According to Houle, there are three types of adult learners: activity-oriented learners, goal-oriented learners and learning content-oriented learners. The motivation of the learning content-oriented group is based on an intrinsic interest in the learning activity. The motivation of goal-oriented learners is controlled (i.e., the result of external pressure). Obtaining a degree, finding a better job, or getting a promotion are central issues for goal-oriented learners. The motivation behind the activity-oriented learner is much more complex than Houle suggested. In an empirical study, Boshier (1973) concluded that learning content-oriented learners and goal-oriented learners are clearly distinguishable from others, but activity-oriented learners need further specification. First, some people participate in a certain activity because they feel a need for social stimulation and cannot find it in other places or contexts. Second, some people are social animals who simply enjoy interpersonal contact. Third, social pressure can convince people to participate in an activity for reasons that affect status, such as a businessman playing golf to foster a personal image. Fourth, people may participate because they want to contribute to society, for example, by engaging in volunteer work. Boshier states that motivations to participate can be very complex but that a global distinction between intrinsic and extrinsic motivations is a valid starting point for speaking about the motivation to participate. In brief, people behave in a certain way because they want to or because they have to (Deci & Ryan, 2000). From an educational point of view, intrinsic motivation and autonomy are seen as ideal because they increase learning success (Radovan, 2010; Wlodkowski, 2008).

A large quantity of research related to motivation and adult education focuses on the perspectives of adult learners only (Houle, 1961; Morstain & Smart, 1974; O'Connor, 1979; Dia et al., 2005; Daehlen & Ure, 2009). The impact of educational practice and policy is widely neglected. This paper is of additional

value because it explores satisfaction as a motivational issue by means of a broader conceptual framework (constructed by Boeren et al., 2010a), including examining characteristics related to the classroom environment and the practical aspects of the learning programme, while controlling for socio-economic background.

3. LLL2010: survey of participants in formal adult education

Data reported in this paper are taken from the European Sixth Framework Research LLL2010, 'Towards a Lifelong Learning Society in Europe: The Contribution of the Education System'. In each of the 13 participating countries, approximately 1,000 adults who were participating in formal adult education were questioned in mid-2007. Empirical findings are based on responses from 1,227 Flemish adult learners enrolled in primary, secondary, post-secondary and tertiary education within specific adult tracks. This paper focuses on only one country (or region) as we are interested in the relation between individual perceptions, socio-economic background and the characteristics of the educational institutions (irrespective of broader country-level structural characteristics). Another paper will be prepared in which we take the country-level variables into account and compare experiences of satisfaction across countries.

Flanders, located in northern Belgium, has 6.5 million inhabitants and a wide variety of formal adult education courses. Basic education and second chance schools provide basic skills, focusing on literacy, numeracy, ICT and social skills, and give adults the opportunity to obtain a secondary education degree. Furthermore, Centres for Adult Education offer courses in numerous fields, including foreign languages, cooking, ICT, electricity, accountancy, construction and so on. Rules for basic education and Centres for Adult Education, including Second Chance schools, are enacted by a decree regarding adult education (Boeren, 2008). Some non-university colleges and universities offer specific tracks for adult learners, usually with classes during evenings or weekends or special online programmes (De Lathouwer et al., 2006). Most of these courses are situated in the

so-called 'soft' sectors, such as education, nursing, social sciences and philosophy. Evening courses in engineering or other hard sciences are hard to find. Adults also have the opportunity to develop their artistic skills in art education, which includes courses related to music, dance, painting, theatre, photography and so on.

Within the LLL2010 project, an adult learner was defined as someone who had been out of initial education for at least two years before re-entering the formal education system. The reason for leaving initial education was unimportant. All courses are recognised officially by the Flemish Department of Education, and upon successful completion of the course, a certificate or degree is granted. These qualifications give adult learners the opportunity to enter a course at a higher level and often provide the possibility to enter the labour market at an advanced level.

The questionnaire contains four sections. The first section focuses on the learning history of the adult learner. Questions in this section include the highest level of education, the year that full-time daytime education was finished and the reasons for discontinuing full-time daytime education. Adult learners also answered questions about courses that they did not finish successfully and completed a Likert item scale on attitude. The second section focuses on effective participation in formal adult education. Questions focus on reasons for participating, problems experienced during participation, financial aspects, didactical methods, confidence in own abilities and satisfaction with diverse aspects of participation. The third section assesses socio-demographic characteristics such as gender, age, family composition, mother tongue, nationality and educational attainment of both parents. The fourth section collects information on socio-economic and socio-cultural variables including labour market status, general time use, participation in social and cultural activities and net monthly income.

Regression analysis is used to answer our research question whether satisfactory experiences are mainly related to individual or educational institutional variables.

Satisfaction will function as our dependent variable and be examined in terms of different subsets of independent variables. In the next part of this paper, we explain the variables that are used.

3.1. Psychological variables

The psychological variables examined are attitude, relevance, confidence and satisfaction, as used in Keller's ARCS theory, which was described within the theoretical framework of motivation above (Keller, 1987). All of these variables are based on data reduction techniques (Principal Component Analysis) with respect to Likert item scales that range from 1 (totally disagree) to 5 (totally agree). The decision of which variables to use was based on an eigenvalue higher than 1, a component load higher than 0.40, an explanation of at least 10% of the variance by each single component and a clear interpretation (coherent concept) of each separate component (Mortelmans & Dehertogh, 2008). Furthermore, Cronbach's alphas were calculated to check for internal consistency.

ATTITUDE: Attitude was measured according to Blunt and Yang's Attitude toward Adult and Continuing Education Scale (Blunt & Yang, 1995). This original 22-item scale was reduced to a 9-item scale by the authors (i.e. Blunt & Yang themselves) after several empirical tests. All 9 items of the revised scale are included in our questionnaire and reflect the intrinsic value of participation, the importance of participation for personal interests as well as for broader societal interests, and the enjoyment of learning. The Cronbach's alpha of the scale is 0.704, which is acceptable.

RELEVANCE: Relevance was measured by 15 items from Boshier's (1973) Education Participation Scale, which was developed to test Houle's (1961) typology. Participation can be intrinsic or extrinsic. Based on data reduction techniques, we further investigated this distinction between intrinsic (Cronbach's

alpha = 0.791) and extrinsic (Cronbach's alpha = 0.777) motivation. We found these two dimensions by using Varimax rotation.

CONFIDENCE: Confidence in successful completion of the course was measured with one question. This question measured the adult learner's belief regarding his or her capacity to attain the learning goals (Bandura, 1997). Because we did not find reliable scales to measure confidence, we created our own question. In the analysis, we used this one single variable which was measured by a five points Likert item scale.

SATISFACTION: A satisfaction scale was constructed by the researchers of the LLL2010 project. This scale contains items regarding general satisfaction as well as measures of satisfaction with the learning climate, with the practical organisation, with what the student has learned up to the time of the survey and with what the student will be able to do with the certificate upon successful completion of the course (Cronbach's alpha = 0.824).

Satisfaction is our dependent variable, and attitude, relevance and confidence were inserted as independent variables in the first regression. Subsequently, we extended the stepwise regressions with the inclusion of other variables, taking into consideration that Keller (1987) stated that the ARCS cycle could be optimised by structural conditions such as a positive classroom environment and didactic methods adapted to the needs of the learners.

3.2. Personal background variables

We examined personal background characteristics of gender, age, level of education and labour market status. We chose these variables on the basis of the UNESCO report, 'Unequal Chances to Participate in Adult Learning: International Perspectives' (Desjardins, Rubenson & Milana, 2006). The Boerens of this report

studied a wide range of databases, such as the International Adult Literacy Survey, the Adult Literacy and Lifeskills Survey, and the EU Barometer. Based on this information, they concluded that certain social groups have fewer chances to participate in adult learning. The three major deciding determinants were age, educational attainment and labour market status. The breaking point between high and low participation for age can be found around the ages of 40 to 45. Older adults tend to participate less, mainly due to shorter perspectives on the labour market (Bélanger, 1997; Jacobs & van der Kamp, 1998). Adults with a higher education degree were more likely to have applied for jobs offering learning possibilities, learned how to learn in the past and developed a more positive general attitude towards learning (Field, 2000; Nesbit, 2006; Willis 1997; de Graaf & Wolbers, 2003; Illeris, 2003). These advantages result in increased chances of enrolling in a learning activity. Being employed is also an important advantage because jobs offer learning activities. Moreover, learning skills can be applied immediately within a job situation, which is an important stimulus (OECD, 2003). Furthermore, the Boerens (of the 'Unequal Chances to Participate in Adult Learning: International Perspectives' report) state that a combination of these three characteristics can increase or decrease a potential student's chances of participation, especially if gender is included. Highly educated working young adults have the best chances to participate, and women tend to participate more than men do (Hayes, 1989; Sargant & Tuckett, 1999; Tuijnman & Schuller, 1999).

3.3. Learning environment variables

In addition to both psychological and social personal variables, we included variables related to the perceived classroom environment. As Keller (1987) observed, positive strategies within the classroom environment can influence the motivational processes of adults. If adult educators use organisational and management strategies that are adapted to the needs of adult learners and customise delivery strategies to the learning content, learning outcomes can become more

effective, efficient and appealing. However, an adult educator is not always able to choose the conditions of learning. For example, the learning goals and the physical aspects of the learning environment are often determined on a broader governmental and/or institutional level. The adult educator has more control over strategies of use within the classroom, and these methods are considered influential towards learning outcomes. Similarly, Wolf & Fraser (2008) argue that learning outcomes are closely related to the perception of the classroom environment and that educators should be aware that perceptions extend beyond the physical and organisational contexts in which learning occurs. Entwistle (1991) also states that perceptions have a great impact on learning results and motivation. Within our research, we use elements of Darkenwald and Valentine's (1986) Adult Classroom Environment Scale, which was constructed to disentangle the perceptions and feelings of adults in courses in two ways. First, they wanted to gather information on learning needs of adults to gear future offerings in adult education to the personal needs of the learners. Second, the scale can function as an instrument for evaluating the classroom environment of the current course. Factors within the scale include feelings of solidarity between students, teachers' involvement and support, the organisation of the course and the transparency of learning goals, without denying the personal needs of adult learners and their demands for autonomy and personal involvement in the course. Similar to Decy & Ryan's (2000) self-determination theory, the keywords 'autonomy', 'support' and 'clear organisation' were retained after the application of data reduction techniques on the ACES of Darkenwald & Valentine (1986). Similar dimensions were found by Seidel et al. (2005). We found these three dimensions by using Varimax rotation.

SUPPORT: The educator acts as a guide in the learning process of adult learners and pays attention to each individual learner. In addition to the educator, adult learners can encourage each other to complete the course successfully (Cronbach's alpha = 0.831).

ORGANISATION: The organisation and structure of the learning activity are clear and well communicated. Adult learners know what is expected of them. A strong structure provides learners with a calming feeling (Cronbach's alpha = 0.717).

AUTONOMY: Adult learners receive multiple chances to develop their own talents and needs. The classroom environment is characterised by openness and flexibility (Cronbach's alpha = 0.624). The internal consistency of these items is rather poor.

3.4. Barriers

Participation in adult learning can be obstructed by various barriers that make finishing the course successfully much more difficult. In Cross's Chain of Response Model (1981), which is also based on Expectancy Value Theory, barriers are important factors in the decision to persist or drop out. Cross distinguished between three types of barriers. Situational barriers are related to personal life, such as time pressure due to family obligations or lack of financial resources to pay for participation. Institutional barriers are a result of inflexible time schedules offered by the institution, a lack of educational facilities within the neighbourhood and so on. Dispositional barriers can be translated as psychological barriers, such as a lack of confidence, problems competing with other students and struggles with poor self-perception.

In our regressions, we use eight types of inhibiting or blocking variables: transportation problems, trouble arranging childcare, financial problems, classes scheduled at an inconvenient time, too little time for studying, lack of preparation for the study programme, difficulties competing with younger students and family problems. Some problems may be related to both the individual level and the educational institution level, such as financial problems (e.g., enrolment fees at educational institutions) that are the result of personal life circumstances. As stated

above, we consider participation in adult education as a ‘bounded agency’; therefore, individuals and educational institutions should work together on finding a successful match that is based on a shared responsibility.

3.5. Adult training system variables

Presently, education systems are evolving from traditional modes into modern lifelong learning modes (Schuetze & Slowey, 2002). Modern systems are marked by the assessment of prior learning, a wider range of programmes, part-time learning, module-based curricula and credit systems, competence-oriented curricula, student-centred organisation of studies, off-campus distance study possibilities and e-learning and self-learning modes. It is important to include these variables to analyse their impacts on the motivation of adult learners.

Within our regressions, we inserted the following variables that characterise the adult training system within the institution:

- Entrance test: a dichotomous variable indicating whether the adult learner had to take a written or oral exam before he or she was able to enter the course.
- APL: a dichotomous variable indicating whether the adult learner was granted exemptions based on an Accreditation of Prior Learning procedure.
- APEL: a dichotomous variable indicating whether the adult learner was granted exemptions based on an Accreditation of Prior Experiential Learning procedure.
- Class size: a categorical variable with four categories: (1) 1-10 learners, (2) 11-20 learners, (3) 21-40 learners and (4) 41 learners or more.
- Class hours: a categorical variable with three categories: (1) 0-4 hours a week, (2) 5-9 hours a week and (3) 10 hours or more.
- Didactical methods: whole-class teaching, individual teaching, distance education and group work are used as dichotomous variables indicating

whether a specific didactical method is often used, never used or rarely used.

- Level of the current course: a categorical variable indicating whether the course took place at ISCED 1-2 (primary and lower secondary level), ISCED 3 (higher secondary level), ISCED 4 (post-secondary non-tertiary level) or ISCED 5 (tertiary level).
- Study field: a categorical variable indicating the subject of the course: (1) general education, (2) humanities, (3) hard sciences and (4) medical sciences.
- Length of the course: a dichotomous variable indicating whether the current course lasts longer than one year.
- Course organisation: a dichotomous variable indicating whether students follow a modular or linear course.

4. Results

4.1. Descriptives

Before we examined feelings of satisfaction experienced by Flemish adult learners within the formal adult education system in a multivariate analysis, we explored the variables used in the analysis in a descriptive way. Table 1 gives an overview of the four personal background variables. Females, employed adults and adults with high educational attainment are clearly visible within the sample. The percentage of employed learners is similar to Flemish employment statistics. Approximately 40% of Flemish adults have a tertiary education degree. Within our sample, adults with high levels of education were more represented than adults with low levels of education. These results are not surprising given that social inequalities in adult learning are a common phenomenon that is described in the lifelong learning literature (Desjardins, Rubenson & Milana, 2006).

Previous literature has stated that time and money are two main barriers preventing people from participating in Flemish adult education (Vanhoren et al., 2003). Among the participants in our sample, these two barriers were reported most often. More than 4 of 10 learners reported having too little time for studying, and more than 2 of 10 reported having problems with the schedules offered by the educational institutions. Financial problems were reported by 12% of learners (see Table 2). Encountering time and/or money barriers leads to a higher risk of dropping out (Cross, 1981).

TABLE 1: Descriptive statistics: Background characteristics of adult education participants

Gender		Age		Labour status		Education	
Male	34.1%	- 25	7.1	Employed	66.2	Low	15.7
Female	65.9%	25 – 40	43.8	Job seeker	8.8	Medium	35.5
		41 -	49.1	Inactive	25.0	High	48.8
TOTAL	100.0%		100%		100%		100%

TABLE 2: Descriptive statistics: Barriers and class organisation

Barriers	Yes	Class organisation	Yes	Class organisation	Yes
Transportation problems	11.4%	Entrance test	20.0%	Class hours 5-9 hours	37.7%
Childcare problems	9.1%	Accreditation Prior Learning	19.8%	Class hours 10 hours or more	26.8%
Financial problems	12.0%	Accreditation Prior and Experiential Learning	6.4%	Whole-class teaching	82.2%
Inconvenient time schedule	22.0%	Class size 1-10	32.7%	Individual teaching	9.4%
Lack of time for studying	42.4%	Class size 1-20	42.4%	Group work	21.5%
Lack of preparation	9.4%	Class size 21-40	16.5%	Modular system	36.8%
Difficulties with younger students	4.0%	Class size 41 or more	8.5%	Length < 1 year	89.3%
Family problems	6.7%	Class hours 0-4 hours	35.5%		

TABLE 3: Descriptive statistics: Satisfaction

Item	No satisfaction	Satisfaction	High satisfaction
The general process of the entire study programme	18.3%	66.1%	15.6%
The general learning climate in the institution	15.9%	65.4%	18.7%
The general practical organisation of the institution	28.2%	55.8%	16.0%
What you have learned so far in the course	9.5%	64.5%	26.0%
What you can do after completion of the course	19.5%	57.6%	22.9%

An entrance test, either oral or written, was taken by one in five learners. The same proportion of learners was given exemptions based on Accreditation of Prior Learning. A similar recognition of competence based on Prior Experiential Learning was indicated less often by the learners.. One in three classes was small and contained a maximum of 10 learners. The biggest group (in terms of class size) was enrolled in classes with between 11 and 20 learners. Hours spent in class were diverse, with more than one in four learners reporting that they spent more than 10 hours a week within the educational institution. Whole-class teaching was the most common didactical method used by educators (see Table 2). Overall, these results reflect a traditional mode of learning with traditional class sizes and didactical methods; only one of three learners reported having lessons in a modular system. The new Decree on Adult Education places greater emphasis on flexible entrance conditions and individual guidance. We expect that the effects of this new decree will be apparent in a few years (Boeren, 2008).

Variables measured by Likert item scales were subjected to data reduction techniques, as explained in the data section above. Within this descriptive section, we present concrete results for the satisfaction concept, which is our dependent variable. The answer choices of 1, 2 and 3 on the Likert scale were merged and were synonymous with the absence of satisfactory feelings. Furthermore, satisfaction and high satisfaction were distinguished. It is not surprising that most Flemish adult learners enrolled in formal adult education feel satisfied with the various aspects of their courses. A complete lack of satisfaction was mostly experienced with regard to the practical organisation of the course (see Table 3). To further understand these positive results, we have to reflect upon our overall research design. As we have only questioned participants in formal adult education who were close to the end of the year, we can hypothesise that we observed few unsatisfied adult learners because they would probably have dropped out by the time the survey was conducted.

4.2. Relationships

Feelings of satisfaction are related to personal characteristics and to strategies implemented by the educational institution. The relation among these factors is the key concept in Keller's theory (1987) and will now be explored in more depth. In our research design, we analysed our data in five steps using multiple linear regression analysis (Mortelmans & Dehertogh, 2007). We conduct our regression analyses in five steps as we want to control the added value of each of our five separate theoretical sets of variables (motivational variables, background variables, barriers, classroom environment, characteristics of the current course), starting with the individual variables and extending it towards the role of the perceptions of the classroom and the course.

We constructed our variables in the SPSS software package and began with the multicollinearity diagnostics using the Variance Inflation Index. No problems were found.

The first regression contained the psychological independent variables of attitude, relevance and confidence. Relevance was divided between intrinsic and extrinsic. The second regression inserted the four socio-economic and socio-demographic background characteristics described by Desjardins et al. (2006): employment, age, educational level and gender. The third regression added barrier variables (Cross, 1981; Darkenwald & Merriam, 1982). The fourth regression contained variables describing the classroom environment experience and focused on the role of the adult educator as a guide within the learning process. In the fifth regression, organisational challenges, such as entry requirements, didactical methods, class size, class hours, timing, study field and discipline, were inserted to complete the analyses.

The contribution of these variables to explaining the variance in satisfaction experienced by Flemish adult learners can be interpreted by means of the adjusted

R^2 . Furthermore, in the regression tables, we indicate the F- and df-values. The F-tests indicate the overall significance of the regression. Df stands for degrees of freedom and indicates the number of values that are able to vary in the calculation of the regression results. The constant is the value we would obtain if all other independent variables were equal to zero.

The ARCS cycle, as defined by Keller (1987), explained 14% of the variance (see Table 4; value = .142 for adjusted R^2). Personal background characteristics increased the explained variance but were counted as marginal. Barriers increased the explained variance by nearly 5% (increase of adjusted R^2 from .177 to .220 between regressions 2 and 3). Variables measuring the adult classroom environment led to a considerable increase of the explained variance by 23.4% (increase of adjusted R^2 from .220 to .454 between regressions 3 and 4). The final statistical model added less than 2% of the explained variance (increase of adjusted R^2 from .454 to .471 between regressions 4 and 5).

TABLE 4: Stepwise multiple regressions with satisfaction as the dependent variable

	Step 1	Step 2	Step 3	Step 4	Step 5
Constant	.018	-.075	.104	.012	.058
Attitude	.212 ***	.184 ***	.184 ***	.044	.026
Relevance: extrinsic	-.202 ***	-.190 ***	-.143 ***	-.037	-.016
Relevance: intrinsic	.100 ***	.082 **	.071 *	.013	-.002
Confidence	.120 ***	.132 ***	.121 ***	.083 ***	.084 ***
Gender: male		-.042	-.037	-.010	.002
Education: medium		-.251 **	-.256 ***	-.134 *	-.131
Education: high		-.449 ***	-.443 ***	-.204 **	-.216 **
Job seeker		-.055	-.098	-.066	-.108
Inactive		.055	.014	-.003	-.040
Age 25-40		.381 ***	.380 ***	.226 *	.205 *
Age 41-...		.494 ***	.453 ***	.223 *	.215 *
Transportation problems			.023	.052	.003
Childcare problems			.071	.014	.045
Financial problems			-.134	.024	.002
Inconvenient time scheduling			-.318 ***	-.178 **	-.186 ***
Time problems			-.044	-.014	-.017
Lack of preparation			-.412 ***	-.142	-.153
Difficulties with youngsters			-.004	-.043	-.043
Family problems			-.196	-.157	-.158
Classroom: support				.271 ***	.284 ***
Classroom: autonomy				.180 ***	.203 ***
Classroom: clear organisation				.482 ***	.476 ***

Entrance test					.200 ***
APL					.067
APEL					.003
Class size 11-20					-.023
Class size 21-40					.004
Class size 41 or more					.254 **
Class hours 5-9					-.073
Class hours 10 or more					-.078
Whole-class teaching					.048
Individual teaching					.051
Group work					.114 *
ISCED 3 course					-.169 *
ISCED 4 course					.019
ISCED 5 course					.012
Humanities					-.192 *
Hard sciences					-.197
Medical sciences					-.236 *
Course length < 1 year					.133
Modular system					-.020
F-value (df)	48.415 (4) ***	23.338 (11) ***	17.990 (19) ***	44.239 (22) ***	25.752 (41) ***
Adjusted R ²	.142	.177	.220	.454	.471

*** $p \leq .001$, ** $p \leq .010$, * $p \leq .050$

Regression step 1

The first regression confirmed the ARCS cycle as defined by Keller (1987). Adult learners who experienced a positive attitude towards learning, recognised the intrinsic relevance of learning for their own lives and had confidence in their own abilities experienced a higher level of satisfaction. Those who participated because of external pressure (i.e., controlled motivation) were less satisfied.

Regression step 2

The inclusion of socio-economic background variables added little explanatory power. The directions and significance of the variables in the first step did not change. At the individual level, we noticed a significant effect of educational attainment. Adults with a bachelor's or master's degree reported more dissatisfaction (than those who did not have a degree). This group might have a more critical attitude towards education because they have the ability to compare the quality of the educational offerings in which they have already participated to the current offerings. It may also be due to their expectations about the relevance and the applicability of the course offerings.

Furthermore, we found a significant effect of age on satisfaction. Older adults were more satisfied than those who were under the age of 25. This finding can be explained by the longer perspectives on the labour market for younger adults, and, thus, more pressure to maintain their skills and knowledge. Employment status and gender did not significantly contribute to the statistical model.

Regression step 3

Barriers added slight explanatory power of nearly 5%, which has to be viewed in relation to the respondents, who were actual participants (and thus overcame barriers to access, which makes it not surprising that it adds no more than 5%). With regard to the variables included in steps 1 and 2, we noticed little change. Previous research findings show that both time and money count as major obstructions or barriers to participation in adult education (Vanhoren et al., 2003).

The variables 'financial problems', 'inconvenient time scheduling' and 'time problems' had negative relations with the experience of satisfaction. These barriers not only hinder enrolment in and/or access to adult education but also have an impact on the participation experience itself, as indicated in Cross's continuous model (1981). Time scheduling appears to be the most important time barrier. Time problems are mainly conflicts resulting from the combination of different life spheres, and they do not necessarily refer to the objective amount of time available to the adult. Moreover, adults who did not feel well prepared for participation were also less satisfied. It might be appropriate to detect lack of required skills or knowledge before enrolment or to compensate for by the teacher and the learning organisation during participation. The influences of teacher behaviour and enrolment conditions were analysed in the following statistical models.

Regression step 4

The inclusion of classroom environment variables increased the power of the analysis strongly. All three classroom coefficients were highly significant. A supportive adult educator who pays attention to the autonomous desires of the adult learners yet is also able to organise his or her educational practice in a clear way will end up with more satisfied adult learners. Previous research at the level of initial education has demonstrated that an autonomy-supportive learning environment affects the motivation of learners in a positive way. By examining this analysis of adult education data, we have added further empirical evidence to this body of knowledge. Most variables included in the previously reported statistical models still showed the same positive or negative relations with the experience of satisfaction, although their levels of significance were largely diminished.

Regression step 5

Characteristics of the adult training system added 1.7% of explanatory power to the overall analysis. Again, the variables included in the previous statistical models remained more or less the same. The three coefficients of classroom environment

remained highly significant. At the level of these newly included variables, we noticed positive relationships for entrance tests and exemptions, meaning that taking part in an entrance test and receiving exemptions are positively related to satisfaction. Adults in large classrooms were also more satisfied. It is hard to explain this result, but it might be related to the opportunities for more social interaction with peers, which can be experienced as social support and contribute to “feeling safe” among peers.

Not surprisingly, adults who attended more than five hours of lessons per week were less satisfied. Time pressure seems to affect the positive experience of satisfaction as well, although these relations were not significant. Furthermore, it may be possible that five hours of lessons per week is too much and that the content could be mastered in less time. People felt most satisfied when they had lessons during the evening, possibly because there was no conflict with their working schedules. The feelings of satisfaction experienced by adult learners after passing an entrance test, either written or oral, could occur because the entrance test serves as a solid, functional mechanism to enrol adults in the appropriate courses instead of allowing them to take any course. Entrance tests often classify adults in the correct group according to their abilities, knowledge, and skills and do not work as a tool to include or exclude adults from a certain course. Without an entrance test, it is possible that some adults would over- or underestimate their own abilities, which could lead to frustration and failure. Adults who have passed an entrance test successfully may also have more confidence that they will complete the course.

5. Conclusions and discussion

In this paper, we explored the satisfaction of Flemish participants enrolled in formal adult education by means of the Comprehensive Lifelong Learning Participation Model, which was constructed by Boeren et al. (2010a). Flemish

adults participating in formal adult education are generally satisfied, and educators who are able to control their classroom environment can make significant contributions to these feelings of satisfaction. Of all variables included in Boeren et al.'s (2010a) Comprehensive Lifelong Learning Participation Model, classroom environment perception had the strongest link with satisfaction.

Overall, the results underline the importance of excellent educators who are able to organise their teaching methods and are able to support and motivate adult learners. There is a need for continuous training and support for educators of adults because they are not a single actor but carry out their work in a larger institutional context. Attention should be given to the training of adult educators (Belgisch Staatsblad, 2007). The teacher training centres that exist at universities, colleges and centres for adult education often do not focus on adult learning or pay only limited attention to teaching adult learners. Research on the profiles of current adult educators and the development of a clear competence profile are urgent requirements.

Another point to take notice of is the dominance of confidence. Different participation models, including Cross (1981) and Darkenwald and Merriam (1982), state that attitude, self-perception and confidence must be present before a person decides to participate. These psychological characteristics are often developed during childhood and pre-adulthood. Unfortunately, the Flemish system of compulsory education is a 'waterfall' system in which many children enrol in the general secondary education track at age 12 and either end up in the vocational stream, fall behind the normal age schedule or leave school at age 18 with no qualifications (Hostens, 2004). Pupils in Flanders are often confronted with selection and failure, which may cause frustration and a lack of interest in the education system during adulthood. Currently, there is debate as to whether there should be a shift towards a comprehensive school system in which pupils have to

choose between different tracks at a later age as well as a balancing of the valuing of these tracks (Commissie Monard, 2009).

Furthermore, the combination of time and energy needed for participation in education while maintaining other life spheres remains problematic for many adults. Education institutions' offering of flexible time schedules adapted to adult learners' life situations is probably a step in the right direction. Overall, the Flemish population experiences a high level of time pressure (Glorieux, Minnen & Van Tienoven, 2008), and this reinforces the problem of time conflicts.

Another point of discussion is the relation between satisfaction and quality. Are satisfied customers an indicator of quality and, if so, of what level of quality? A search of the academic literature shows that many papers have been written about satisfaction and quality, but they are mainly in the field of healthcare services and job satisfaction/quality. Because many of the Flemish adult learners in the formal adult education system reported that they were generally satisfied, we might be optimistic about the role of educational policy and practice. Nevertheless, some of the articles on satisfaction and quality warn about a shift towards a commercial discourse on "satisfying the customer" becoming more important than a normative discourse that asks for more attention towards the purpose of education and its intrinsic meaning (Beecham, 2009; Simons et al., 2007).

Finally, although we have gained insight into the satisfaction of adult learners, we should bear in mind that we are focusing on a small subset of the entire adult population. Results of the Adult Education Survey (AES) indicate that 13% of the population between the ages of 25-64 in Flanders participates in formal adult education on an annual basis. Progress towards the Lisbon objectives is stagnating, and the attempt to reach the goal of 12.5% participation (of adults between age 25 and 64) has failed. The recent AES has confirmed once again that less educated adults tend to participate less in further education (Boeren et al., 2010). Flemish

policymakers support adults by means of paid educational leave and training cheques, yet these incentives do not attract (enough) disadvantaged adults to education. It is important to determine whether non-participants have the desire to participate and, if so, why they do not do so even when offered incentives. It is a limitation of our research study that we cannot compare the adult learners with non-participants. Comparisons with the Adult Education Survey are difficult to make because of the other survey sampling method (i.e. AES based on age 25-64, LLL2010 SP3 based on adult returners in the formal education system).

As indicated in the introduction, our goal was to gain insight into the experiences of adult learners and to draw conclusions in favour of the promotion of participation among non-participants. This paper shows the important roles of educators and educational institutions. Our regressions demonstrated that adults with low educational backgrounds who participate in adult education experience satisfaction. We assume that non-participants with low (e.g., restricted) educational backgrounds could be encouraged to participate and be satisfied, especially if the characteristics of the classroom environment were aligned to their personal characteristics and context. Additionally, study skills counselling and advice can play an important role in influencing the perceptions of the adult learners with respect to the variables explored in this research. One of the key messages in the Memorandum of Lifelong Learning in 2001 was that it was necessary to invest in clear and tailor-made information with regard to the educational offerings and to provide support to potential learners who wish to access the educational system. In conclusion, the educational institutions in Flanders are doing a satisfactory job with regard to guiding adult learners in their learning process, but efforts by the educational institutions should be enlarged to reach a much broader group of potential adult learners.

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