Happiness in persons with intellectual disabilities

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Researchers and practitioners in the field of intellectual disability (ID) are interested in quality of life and happiness as outcomes of services. A target to promote quality of life through services and support has brought very fundamental questions up. We want to know, would it be possible to make people more happy by better services and better living conditions. We need to know when people are happy and in which circumstances they assess their life good. We need then find ways to improve these conditions. The issues are important for all people and there is a large body of happiness research concerning general population. The crucial question in the field of ID is, if the results obtained in general population studies are applicable to persons having ID or are there different or additional components one needs to consider when describing happiness in this group of people.

Aristotle (1962) explained that more than anything else people seek happiness, and while happiness itself is sought for its own sake, every other goal is valued only because we expect that it will make us happy. According to von Wright (1963) there are at least three well-known accounts of the happy life: (a) The materialistic theory of happiness; (b) the utilitarian view that happiness is essentially contentedness—equilibrium between needs and wants on the other hand and satisfaction on the other; and (c) Aristotle's concept of eudaimonia, which equates happiness with creative activity. Happiness is thought to come from the fulfillment of one's capacities by doing what one is keen on (Shin & Johnson, 1978).

Csikszentmihalyi (1992, p. 2) argues that happiness does not depend on outside events, but, rather, on how we interpret them. According to his definition a person could learn to control his/her quality of life by learning to control his/her life. Each person must have his/her own personal interpretation on life. Would it then be possible for people who have not learned to control their inner experience or who feel that their lives are not in their control to experience that they have a good quality of life and feel happy? People who have learning disabilities often have a weak control on their life. But do they feel less happy than other people do? On the other hand, happiness does relate to major outside events and factors. Firstly, there are marked differences in levels of happiness between countries. Citizens of rich, democratic countries are happier than those living in poor, non-democratic countries (Diener, Diener, & Diener, 1995). Secondly, though humans adapt well to hardships and negative events, some traumas (rape, losing child or spouse) seem to have long-term effects (Follette, Polusny, Bechtle, & Naugle, 1996; Lehman, Wortman, & Williams, 1987; Van der Kolk, McFarlane, & Weissfeld, 1996).

Happiness studies predict that one's interpretation of the quality of living conditions is more important than the actual quality of these conditions. Unrealistically positive interpretations are found to be connected to good mental health (Taylor & Brown, 1994). People overestimate their ability to control their environment. Previous studies show that experience of control is related to happiness. According to these studies only a part of this variance is related to a person's position or status (cf. Veenhoven, 1984). Happiness or perceived quality of life is to a large extent based on subjective interpretations of one's life situation. However, philosophy of self-determination presupposes that person's environmental quality is very important for his/her well-being or happiness. It is expected that self-determination, opportunity to exercise control over one's life promotes happiness. Thus functional assessment of person's situation ("objective quality of life") should correlate with happiness. It can be argued that personal control/control over life is an important factor in happiness, but other interpretations are also possible. Firstly, Parducci (1995) regards personal evaluative context as important. Both personality and life event factors can move context to optimistic and pessimistic direction. However, the main point of Parducci is that to a large degree happiness is relative in the sense that everything is evaluated in that particular context. Secondly, it is probable that the quality of interactions has a marked effect on happiness. These interactions are related to one's need satisfactions. If one generally gets what one wants, one is
satisfied. Time sampling methods show that daily events are mostly happy (Diener, Sandvik, & Pavot, 1991). Thirdly, social comparison processes are important (Diener, Suh, Lucas, & Smith, 1999). The more positive the results of these comparisons are, the happier a person is.

Concept of control is a difficult one. It can mean power or authority over the behaviour of others, but the social influence processes can be much more subtle ones. A person can control others by helplessness or dependency, too. Persons having ID have many effective social influence strategies, which can bring them experience of control. These methods are used both automatically, and by purpose (Cialdini, 1993).

According to the review of Myers and Diener (1995) several national surveys have revealed that knowing someone's age, gender, race or ethnic group, or income hardly gives a clue, when we want to know ‘Who is happy?’ Better clues come from knowing a person’s traits, whether the person enjoys a supportive network of close relationships, whether the person's culture offers positive interpretations for most daily events, whether the person is engaged in work and leisure, and whether the person has a faith that entails social support, purpose and hope. In several studies, four inner traits mark happy people: self-esteem, a sense of personal control, optimism, and extraversion (Myers & Diener, 1995). In the Finnish survey on quality of life of people with ID, happiness was found to be closely related with positive self-image and idea that other people have a positive view of the person (Matikka, 1996a).

It is difficult, however, to predict what kind of effects all these factors have on persons with ID. Firstly, the contextual or adaptive effect is very powerful. People can be happy in many surroundings and environments. Secondly, persons with ID probably compare themselves mainly with those they interact. If their contextual group consists of other persons with ID, they probably feel quite safe and equal. However, if their comparison group is "those other people" they may suffer in comparison. A big question is, to what degree they are able to make these kind of comparisons. We will make a hypothesis that in environments good enough, persons with ID are just about as happy as everybody else, but if they feel they suffer in comparisons they will be considerably less happy. Suffering in comparison may show in many quality-of-life domains, like self-determination, social relations and opportunities.

When will persons with ID become conscious of their life situation? Is this kind of ability related to intellectual level? The social comparisons are complicated and require quite high cognitive abilities. The net effect of high cognitive abilities on happiness is not self-evident, because those having only mild disabilities can compare themselves favourably with their fellows, but may suffer in comparisons with other people. Finally, we must remember that the causal relations are bidirectional. Favourable traits and cognitions promote happiness, but happiness also promotes other positive traits.

Quality of life is often defined as a multidimensional concept containing for example emotional well-being, interpersonal relations, material well-being, personal development, physical well-being, self-determination, social inclusion and rights (Schalock, 1996). Domains included into the concept vary in studies. A debate on the conceptualisation, measurement and application of the quality-of-life concept has recently focused on core domains but also on subjectivity and objectivity of the measurement of quality of life. The Special Interest Group on Quality of Life (IASSID) has prepared a consensus paper on these ideas and now discusses nine chief core ideas of quality of life: domains of well-being; inter and intra-personal variability; personal context; life span perspective; holism; values, choices and personal control; perception; self-image; and empowerment (Schalock et al., in press).

Happiness and quality of life of people with ID were examined in the survey conducted by FAMR Research Unit at Finnish Association on Mental Retardation in early 1990's (Matikka, 1994; Matikka, 2001b). In that study 608 persons responded to the question ‘Do you feel happy?’ A total of 92.4% indicated that they were happy (49.3 % felt very happy, 38.2% felt fairly happy, 4.9% felt happy, but
did not differentiate how happy), and only 7.6% answered 'no' (Autio, 1992). Happiness measured by a means of eight questions could not be predicted by age, level of disability, education, gender, employment, having a spouse, having children, number of friends, frequency of contacts with parents or frequency of contacts with other relatives (Matikka, 1996a). These results of the happiness of people with ID challenged us for further investigations.

The intent of the present study was (1) to describe a distribution of the condition of happiness in adults with ID in order to assess does happiness of persons with ID differ from happiness of general population, (2) to examine relations of personal control (i.e., opportunities to make choices in daily living) and participation (i.e., involvement in work and hobbies, and social inclusion) to happiness in order to find out, whether these factors affect the happiness of people with ID as they affect the happiness of people in general, and (3) to investigate, if personal interpretation (i.e., self-reported) of control and participation relates to happiness in an equal way as functional assessment (i.e., proxy-reported) of control and participation does?

Methods

Subjects
The present analyses included 376 persons. A total number of 482 subjects interviewed was reduced by deleting 106 persons. 19 persons were deleted because of their high rate of acquiescence: they answered "yes - yes" at least three of the five oppositely worded question pairs and 74 persons because their level of ID was severe or it was not known. Thirteen persons were dropped because they had more than one missing value in three happiness items.

The study group included 191 males (50.80%) and 185 females (49.20%). The mean age of the subjects was 40.23 years (SD=11.79, range 18-77 years). 34 persons (9.04%) were assessed having normal or borderline ID, 162 persons (43.09%) having mild ID and 180 persons (47.87%) having moderate ID.

Measures
Single item of happiness. A single item Are you happy with your life? was used to indicate happiness. Response choices were 'yes', 'no' and 'don't know'. The test-retest reliability with time lapse of three weeks and a group of 47 persons using Phi coefficient was .69 (Matikka, 2000b, Appendix 1).

The scale of happiness. The scale of happiness was composed from three items: 'Are you happy with your life?', 'Are you confident that you will get along in life?' and 'Has your life generally improved during the past year?' The 'yes' answers were valued by '100' and 'no' answers by '0' in order to make the results easily interpretable. The mean of the answers displayed the value of the person in happiness scale. The scores of happiness scale ranged from 0 to 100. The internal consistency of the scale of happiness was adequate (Coefficient alpha, 54, N=348) (Matikka, 2000b; Matikka, 2001b). The distribution of the scale displayed negative skewness (-3.17). For the analyses of association between happiness and other variables subjects were divided into two groups - happy and less happy persons. Into the group of very happy persons were included those having maximum values (100) in the happiness scale and into the group of less happy persons all other subjects.

Personal control was measured by two scales. First, the scale of choices (1) was used in interviews of the subjects. It consisted of nine questions concerning choices made by subjects in their everyday setting. Questions were: Did you choose where to live (in which institution, group home or apartment)? Do you have a key to your own apartment or to your own room? Can you take a snack whenever you want? Do you cook at least once a week? Do you have your own bank account where you can draw money? Do you have any domestic chores that
you are responsible for? Can you ask your friends to visit whenever you want to? Does anybody read your mail without your permission? Did someone else choose your furniture or carpets? This scale is a part of the Subjective Well-being Scale and it was scored in the same way as the scale of happiness. The coefficient alpha was .62 (N=307) (Matikka, 2000b). The scale of choices (2) included six questions answered by a proxy, usually a staff member who knew the subject well. Questions were: Does the person have his/her own room? Can the person invite his/her family and friends over, even for the night? Does the person move freely around the area close to his/her home? Has the person been able to choose furniture or fabrics in the home him/herself? Does the person have a key to his/her own home or room? Can the person decide who he/she lives with? and it was scored in the same way as the scale of happiness. The internal consistency of the sale was good (Coefficient alpha .68, N=617) (Matikka, 2001a).

Participation was measured by three scales - two activity scales and the scale of social inclusion. The scale of activity (1) was answered by subjects themselves and it included eight questions: Have you been in a restaurant, bar or coffee shop during the past month? Do you take physical exercise at least once a week? Are you a member of any club or team that meets regularly? Do you enjoy art? Do you have any future plans concerning your education, living arrangements or work? Are you a member of any association (such as associations for the disabled or voluntary organisations)? Did you vote in the last election? Have you visited anyone during the past month? Internal consistency of the scale was adequate (Coefficient alpha .52, N=267) (Matikka, 2000b). The scale of activity (2) was answered by a proxy and included seven questions: Does the person go outside the home to work, study or do some daily activity three or more days a week? Does the person take part in any hobby activities on a regular basis? Can the person attend cultural events of his/her choice at least once a month? Has the person been given information on sports and recreational opportunities suited to him/her? Does the person do household chores? Does the person go shopping for food or clothes, or visit the bank or post office at least twice a month? Does the person take part at least once a month in activities in which there are also people who do not have ID? The internal consistency of the scale was good (Coefficient alpha .74, N=625) (Matikka, 2001a). The scale of social inclusion was used in interviews of subjects and it composed from four items: Do you have at least three good friends? Do you tell your friends about your problems? Do you sometimes visit children or older people? Do you often stop to talk with your neighbours? Internal consistency was adequate (Coefficient alpha .51, N=344) (Matikka, 2000b).

The scales of happiness, choices (1), activity (1) and social inclusion are parts of The Subjective Well-being Scale (SWB) (Matikka et al., 1998). The scales of choices (2) and activity (2) are parts of the The Elpa - An Assessment Scale for Living Conditions and Services (Matikka & Toivonen, 2000). The theoretical range of all these scale scores is 0 to 100.

Procedure

The data of the study were drawn from the data bank "Assi". This data bank is maintained by FAMR Research Unit at Finnish Association on Mental Retardation for evaluation of quality of residential services. From the November of 1994 to the end of 2000, a total of 482 persons, from 87 service units, were interviewed by Subjective well-being scale. The sample was not randomly drawn from Finnish service units, but included all units, which were interested to improve their working practices and service quality and ordered evaluation of their services. The data of SWB sub scales described above were gathered by interviewing subjects in their home settings or in work places. The data of the Elpa sub scales were collected by postal questionnaires sent to the direct care workers (proxies) of
the subjects. The data of personal characteristics of the subjects were also requested from
the direct care workers.

Results
To the single item of happiness ‘Are you happy with your life?’ 339 (93%) persons answered
‘yes’ and 26 (7%) ‘no.’ As shown in Figure 1, the distribution of the scale of happiness was
peaked and skewed, 85% got the maximum value in the scale.

Insert Figure 1 about here

In order to examine relations of personal control (opportunities to make choices in daily life)
and participation (activity at work, hobbies, and social inclusion) to happiness persons were
divided into two groups according to their rating in the scale of happiness. All those who had
the maximum score (100) in the scale of happiness were identified as ‘very happy’ and all
the other as ‘less happy.’ Persons whose level of ID was assessed being borderline were
more often in the group of less happy than could be expected. No differences between very
happy and less happy persons were found in age, in gender and in a type of housing (see
Table 1).

Insert Table 1 about here

The relation of happiness to personal control and participation was examined by
independent-samples t-tests. These analyses revealed a significant difference (p<.01)
between the two groups (very happy and less happy) in choices (1), in activity (1) and in
social inclusion. The happier persons had more opportunities to make choices in everyday
life, were more active and had more social relationships. All these things were reported by
the person self. Instead, there were no significant differences between the groups in choices
(2) and activity (2) that were assessed by a person’s direct care worker. See table 2.

Insert Table 2 about here

The explanation and prediction of happiness was summarised using logistic regression. A
main effects model with terms of level of ID, personal control (choices1), participation
(activity1 and social inclusion) was tested. Continuous variables were standardised thus the
odds ratios are comparable. A model building was done according to established lines of this
analytical tradition (Hosmer & Lemeshow, 1989). The results showed that lower level of ID,
higher scores of choices and social inclusion were significant predictors of happiness (see
Table 3).

Insert Table 3 about here

Discussion
Are Persons with Intellectual Disabilities Happy?
The results of interviews show that the level of happiness is very high indeed (92.6 % of
maximum). Partly this may be the result of acquiescence, though the study of Matikka and
Vesala (1997) showed that this is not sufficient explanation and in the present study data of
some acquiescent persons were rejected. Cummins’ comprehensive study showed that the
degree of satisfaction in a general
population is 75% of the maximum value (Cummins, 1996). Many factors can explain these results. Firstly, the basic needs of persons with ID are to large extent satisfied in the Finnish service system. Their living places are carefully designed and their jobs, tasks and roles in them are optimally selected and supported. Secondly, it is probable that they use similar coping methods as people generally, for example they can operate themselves with others by selecting those life areas or targets which are most favourable for them. Thirdly, demanding social comparisons may be difficult for persons with intellectual difficulties. The most immediate social situation is most salient for them. Fourthly, if their interactions are generally positive, they regard themselves as happy or satisfied. The staff members do their best to prevent problems and especially aggressive behaviour. Persons with ID live a sheltered life which means that their interactions are carefully supervised. Many staff members feel that their foremost task is to keep persons with ID happy and satisfied.

Differences in Happiness

If the factors which explain happiness or satisfaction are similar to those in the general population, the results are more credible in a sense that happiness of persons with ID is not different from that observed in the general population. In representative samples happiness does not correlate much with demographic factors (age, gender, education, living conditions), but does correlate with personality factors like traits and values (Argyle, 1999; Emmons, 1999; Robbins & Kliewer, 2000). The results of persons with ID are similar. Actually, happiness can be viewed as personal life philosophy which can find its expression on behavioural, emotional, cognitive and value level. Experience of personal control or self-determination has been regarded as very important factor for well-being and happiness. Self-determination and empowerment are important concepts in the care and services for persons with ID. It is a major premise in western cultures that self-determination promotes happiness. Is subjective experience of control more important than actual control? Seligman (1975) with his concept “learned helplessness” purports to show that losing predictability and control causes depression and hopelessness (and unhappiness). Numerous studies show that environments or situations producing helplessness cause depression (Peterson et al., 1993; Seligman, 1975). Loss of something important (close person, work, health) is a major cause of depression. The results showed that a person’s own evaluation of self-determination did correlate with happiness, but causal directions can not be ascertained. Both helplessness inducing environments and pessimistic interpretations jointly produce learned helplessness. In this study no differences were found between happy and non-happy persons between their actual living conditions or ratings made by staff members. There may be real differences in possibilities for self-determination in different living places, but these differences may be too small to be recognised.

Cognitive Abilities and Aspirations

In population studies correlation of intelligence and happiness is practically zero (Diener et al., 1999). Ludwig (1996) has even showed that very creative persons (geniuses) are often very unhappy. Why is this so? The aspirations of highly intelligent and creative persons can be too high even though their abilities are great. What kind of goals persons with ID have? Are they able to state the goals and evaluate their attainments? Perhaps those belonging to the non-happy group do recognise gaps between their goals and attainments. Specific lacks or unmet needs may be easier to recognise than differences between different living environments, because the goals or needs are accessible in mind. In the study reported by Matikka (1996a) the subjects with ID experienced more stress if they exhibited a desire for autonomy and if they felt that their disabilities affected their lives in a way that restricted them to attain their goals. People with mild ID did express desires for family life, work, hobbies and living conditions similar to the rest of people (Matikka, 1996b; Matikka, 2000a). How do their cognitive abilities affect planning and reflecting their life, and how do these processes influence assessing
happiness and quality of life, is difficult but interesting problem and needs further studies.

Importance of Emotions

It can be speculated that when cognitive abilities are not good, present emotions shape to a large extent the basis of happiness evaluations. Persons with normal cognitive abilities easily use retrospective cognitions to evaluate their life, but this can be difficult for persons with ID. They have to rely on their present socio-emotional experiences. In general, these retrospective ratings correspond quite well with emotional experiences rated by time sampling methods (Diener et al., 1991). Present emotions depend mainly on the need satisfactions and on quality of the latest social interactions. In any evaluation of happiness the present emotional condition is important, but is it even more important for persons with ID because their intellectual problems?

In summary, we expect that the main factors influencing happiness of persons with ID are their experience of need satisfactions and the immediate emotional reactions of persons present. They are happy if their needs are well cared for and if they can interact with persons having positive moods and approaches. The major aim of the staff is to fulfill these conditions. It seems that these preconditions are met. According to the present study persons having ID are indeed happy.
References


Matikka, L. M., & Toivonen, S. (2000). Elpa - An Assessment Scale for Living Conditions and Services. For use only with the permission of FAMR Research Unit (3rd version ed.).


Figure 1. Distribution of The Scale of Happiness (N = 376).

Mean = 92.64, SD = 19.90
Table 1
Differences of Demographic Characteristics Between Less and Very Happy Persons (N=376)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Less happy</th>
<th>Very happy</th>
<th>Total</th>
<th>chi-square</th>
<th>p</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>f (%)</td>
<td>f (%)</td>
<td>f (%)</td>
<td></td>
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</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>26 (15%)</td>
<td>163 (85%)</td>
<td>191 (51%)</td>
<td></td>
<td>.017</td>
</tr>
<tr>
<td>Female</td>
<td>28 (15%)</td>
<td>157 (85%)</td>
<td>185 (49%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of intellectual</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>disability</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Borderline (score 1)</td>
<td>12 (35%)</td>
<td>22 (65%)</td>
<td>34 (9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild (2)</td>
<td>21 (13%)</td>
<td>141 (87%)</td>
<td>162 (43%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate (3)</td>
<td>23 (13%)</td>
<td>157 (87%)</td>
<td>180 (48%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of housing</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living alone</td>
<td>5 (9%)</td>
<td>53 (91%)</td>
<td>58 (15%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With spouse</td>
<td>2 (14%)</td>
<td>12 (86%)</td>
<td>14 (4%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With friend</td>
<td>1 (8%)</td>
<td>11 (92%)</td>
<td>12 (3%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With parents</td>
<td>3 (7%)</td>
<td>39 (93%)</td>
<td>42 (11%)</td>
<td></td>
<td></td>
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<tr>
<td>or in another family</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group home, 3 - 5 persons</td>
<td>8 (20%)</td>
<td>32 (80%)</td>
<td>40 (11%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group home, more than 5 persons</td>
<td>26 (16%)</td>
<td>145 (84%)</td>
<td>173 (48%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institution for persons with ID</td>
<td>9 (24%)</td>
<td>28 (76%)</td>
<td>37 (10%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 - 29 years</td>
<td>9 (12%)</td>
<td>68 (88%)</td>
<td>77 (20%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 - 39 years</td>
<td>18 (17%)</td>
<td>91 (83%)</td>
<td>109 (29%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40 - 49 years</td>
<td>14 (13%)</td>
<td>95 (87%)</td>
<td>109 (29%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 - 59 years</td>
<td>10 (17%)</td>
<td>49 (83%)</td>
<td>59 (16%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 - 77 years</td>
<td>5 (24%)</td>
<td>16 (76%)</td>
<td>21 (6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>41.98 (12.97)</td>
<td>39.93 (11.56)</td>
<td>40.23 (11.79)</td>
<td>1.20*</td>
<td>.23</td>
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</table>

* t-value
Abstract

Happiness and quality-of-life research both have long traditions in philosophy, psychology and social sciences. The discourses of these constructs have lately come to the fore in the field of intellectual disability (ID), too. The present research focused on the distribution and correlates of happiness in people with (ID). Almost 93% of persons (N=376) with ID reported their life being happy, which is more than the reports from population studies show normally being case. No significant differences between very happy and less happy persons were found in gender, age and type of home setting. Happy persons rated their personal control, participation and social inclusion higher than less happy persons. Instead, happiness could not be predicted by functional assessments of personal control and participation when assessments were made by proxies. Persons with moderate or mild ID seemed to be happier than persons with borderline ID. Reasons for higher happiness are discussed in association of ID.
Table 2
Differences Between Less and Very Happy Persons in Personal Control and Participation (N=376).

<table>
<thead>
<tr>
<th>Scale</th>
<th>Total M (SD)</th>
<th>Less happy M (SD)</th>
<th>Very happy M (SD)</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choices1</td>
<td>74.22 (20.68)</td>
<td>65.46 (25.42)</td>
<td>75.76 (19.38)</td>
<td>-3.49</td>
<td>374</td>
<td>.001</td>
</tr>
<tr>
<td>Choices2</td>
<td>80.54 (23.47)</td>
<td>75.56 (25.23)</td>
<td>81.28 (23.16)</td>
<td>-1.48</td>
<td>337</td>
<td>.139</td>
</tr>
<tr>
<td>Participation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity1</td>
<td>63.55 (21.98)</td>
<td>52.04 (24.34)</td>
<td>65.57 (20.84)</td>
<td>-4.35</td>
<td>373</td>
<td>.000</td>
</tr>
<tr>
<td>Activity2</td>
<td>79.47 (18.55)</td>
<td>74.52 (20.73)</td>
<td>80.20 (18.13)</td>
<td>-1.90</td>
<td>339</td>
<td>.058</td>
</tr>
<tr>
<td>Social inclusion</td>
<td>72.18 (29.69)</td>
<td>57.44 (32.55)</td>
<td>74.77 (28.44)</td>
<td>-4.11</td>
<td>373</td>
<td>.000</td>
</tr>
</tbody>
</table>
Table 3
Risk Odds of Level of ID, Choices, Activity and Social Inclusion.

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Odds ratio</th>
<th>Sig.</th>
<th>95% C. I. for OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of ID (2 vs. 1)†</td>
<td>4.41</td>
<td>.001</td>
<td>1.77</td>
</tr>
<tr>
<td>Level of ID (3 vs. 1)†</td>
<td>4.99</td>
<td>.001</td>
<td>1.87</td>
</tr>
<tr>
<td>ZCHO†</td>
<td>1.45</td>
<td>.015</td>
<td>1.07</td>
</tr>
<tr>
<td>ZACT†</td>
<td>1.34</td>
<td>.055</td>
<td>0.95</td>
</tr>
<tr>
<td>ZSOCIN†</td>
<td>1.54</td>
<td>.006</td>
<td>1.13</td>
</tr>
</tbody>
</table>

Note
† Persons with borderline ID was a reference group.