Acquired cognitive impairments in adults with Down syndrome: Effects on the individual, carers and services.

Oliver, C., Crayton, L., Holland, A.J., Hall, S.

*Cerebra Centre for Neurodevelopmental Disorders,*  
*School of Psychology,*  
*University of Birmingham*

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Cognitive Deterioration in Adults With Down’s Syndrome:

Effects on the Individual, Carers and Service Use

Chris Oliver
University of Birmingham (Birmingham, United Kingdom)

Lissa Crayton
Formerly of The Institute of Psychiatry (London, United Kingdom)

Anthony Holland
University Of Cambridge (Cambridge, United Kingdom)

Scott Hall
University of Birmingham (Birmingham, United Kingdom)
ABSTRACT

49 individuals with Down’s syndrome who had participated in serial neuropsychological assessments over a four-year period (Oliver et al., 1998) were assigned to one of three groups: 1. those who had experienced cognitive deterioration 2. those who had no evidence of cognitive deterioration but were comparable in age, and 3. those who had no evidence of cognitive deterioration but were younger in age. All three groups were comparable on pre-existing degree of developmental disability. Groups were compared on measures of service use, life experiences and caregiver difficulties. Those who experienced cognitive deterioration were less likely to receive day services, had more impoverished life experiences and required support with basic care and cognitive and behavioral difficulties in comparison to both groups without cognitive deterioration. When age was controlled for, the degree of cognitive deterioration was significantly positively associated with difficulties experienced by carers and service use and negatively associated with life experiences for the individual. These results identify a potential role for carer difficulties in influencing the life experiences of adults with Down’s syndrome who experience cognitive decline. Amelioration of carer difficulties might be achieved by staff training.
Cognitive Deterioration in Adults With Down’s Syndrome:

Effects on the Individual, Carers and Service Use

There is considerable evidence that adults who have Down’s syndrome are at high risk for developing Alzheimer related dementia in later life. Estimates of prevalence show substantial variability, primarily due to definitional and methodological inconsistencies. Aylward, Burt, Thorpe, Lai, and Dalton (1997) describe prevalence estimates of 10% to 25% in the age band of 40 to 49 years, 20% to 50% in the age band of 50 to 59 years and 30% to 75% in those over 60 years of age. Precision is further limited by a systematic difference in estimates made on the basis of neuropathological studies and those based on psychiatric diagnosis or neuropsychological assessment (see Oliver & Holland, 1986).

Research into the dementia presumed to be concomitant with Alzheimer’s disease in Down’s syndrome, has progressed significantly in the last decade. Following a series of cross sectional studies of cognitive and behavioral decline (e.g. Crayton, Oliver, Holland, Hall & Bradbury, 1998; Haxby, 1989; Thase, Tigner, Smeltzer & Liss, 1984; Wisniewski, Howe, Gwyn-Williams & Wisniewski, 1978), prospective longitudinal studies have appeared (Burt, Loveland, Chen, Chuang, Lewis & Cherry, 1995; Devenny, Silverman, Hill, Jenkins, Sersen & Wisniewski, 1996; Lai & Williams, 1989; Oliver, Crayton, Holland, Hall & Bradbury, 1998). These studies have clarified the profile of cognitive decline and demonstrated similarities to the dementia associated with Alzheimer’s disease in the general population i.e., decline in memory and orientation and the emergence of aphasia and apraxia. Recently, a number of studies have attempted to describe the sequential development of cognitive and behavioral decline which appears in adults who have Down’s syndrome. Lai and Williams
(1989), Dalton and Fedor (1998) and Oliver et al. (1998) have documented the sequence of decline in cognitive domains to be similar to that seen in the general population, with deterioration of learning and memory preceding aphasia and apraxia.

The prevalence figures for some form of cognitive and behavioral decline described above, are given added significance by the increasing life expectancy of adults who have Down’s syndrome. The average life expectancy for adults with Down’s syndrome has recently been estimated by Eyman, Call and White (1991) to be approaching 50 years (see Carr, 1994 for a review). Additionally, Prasher and Krishnan (1993) has estimated the duration of dementia in adults with Down’s syndrome to be approximately 4.8 years. In combination, these factors indicate that the absolute number of adults with Down’s syndrome who are experiencing cognitive and behavioral decline is increasing. Whilst the main focus of research is likely to continue to be the association between genetic determinants, biological markers and decline in specific cognitive domains (Berg, Karlinsky & Holland, 1993), there is clearly a need for complementary research which considers the impact of cognitive decline on the individual, carers and services (Janicki, Heller, Seltzer & Hogg, 1995).

The problems for services are most evident at the level of diagnosis. The difficulties associated with assessing cognitive decline in the presence of a pre-existing global cognitive impairment have been discussed elsewhere (Aylward et al., 1997; Crayton & Oliver, 1993; Oliver, 2000). The problems are primarily associated with floor effects in testing and the variability in the degree of pre-existing cognitive impairment in adults who have Down’s syndrome (Crayton et al., 1998). These problems are significant, as it is clear that given the very high risk of acquiring dementia for adults with Down’s syndrome, early diagnosis is important for targeted service provision.
The second significant challenge for services is determining the response to the problems which accompany cognitive decline and associated loss of skills. This should be related to the specific problems experienced by an individual and carers but at a strategic level this may be informed by an understanding of the service needs which develop with cognitive decline. At present it is not known which services are accessed by those who show cognitive and behavioral decline and whether the service is appropriately matched to the needs of the individual and their carers. Additionally, the empirical literature on behavioral change in adults with Down’s syndrome is limited.

Early neuropathological studies of Alzheimer’s disease in adults with Down’s syndrome described gross behavioral changes in addition to skill loss. Jervis (1948) noted apathy, “episodic noisy excitement”, irritability and wandering, as well as destructive behavior. Other reports documented lethargy, “silliness”, withdrawal, loss of interest, a limited response to people, extreme changes in appetite and difficult behavior (Crapper, Dalton, Skopitz, Eng, Scott & Hachinski, 1975; Ellis, McCulloch & Corley, 1974; Haberland, 1969; Olson & Shaw, 1969; Reid, Maloney & Aungle, 1978; Ropper & Williams, 1980; Verhaart & Jelgersma, 1952; see Oliver & Holland, 1986 for a review). However, these reports were both subjective and retrospective.

As the focus of research shifted to the early signs of cognitive decline, less attention was paid to behavioral change in addition to skill loss. However, Prasher and Filer (1995) have recently described the presence of problems such as wandering, restlessness and sleep disturbance in adults with Down’s syndrome who have developed dementia. It is clear from Prasher and Filer’s data, recent reviews of behavior change (Dalton & Wisniewski, 1990) and clinical
case studies (e.g. Newroth & Newroth, 1980) that further description of the behavioral changes which accompany cognitive decline in adults with Down’s syndrome is warranted.

The first aim of this study is to describe the difficulties which arise for individuals and their carers, when the individuals experience cognitive and behavioral decline. A second aim is to describe the impact of cognitive and behavioral decline on life experiences and to describe current service use in this population.

To fulfil these aims, a well defined cohort was employed, in which the status of each individual was known with regard to the extent of cognitive decline in a previous four year period (see Oliver et al., 1998). Cognitive decline was used in preference to the diagnosis of dementia because of the enhanced objectivity inherent in a prospective design employing neuropsychological assessments (Oliver, 2000). Using this cohort it is possible to compare adults who have shown cognitive decline to 2 groups of individuals who did not show cognitive decline; one comparable in age, the other younger in age, whilst also controlling for pre-existing degree of cognitive impairment.

Method

Participants

Participants were drawn from a sample of 57 individuals with Down’s syndrome, aged 28 years and over, reported in Oliver et al., (1998), who had participated in serial neuropsychological assessments designed to measure cognitive deterioration in older adults with Down’s syndrome. Of these, data were available on 49 (85.9%) participants who are included in the present study. The mean age was 41.63 years ($SD = 7.03$) and 19 (38.8%) were female. Of the 49 participants, ten (20.4%) showed cognitive deterioration according to
the criteria described in Oliver et al. (1998). These criteria specified that for cognitive
deterioration to be evident, serial neuropsychological assessments should demonstrate
acquired aphasia, apraxia and agnosia. A secondary analysis revealed that when these deficits
were present, decline in learning and memory was also evident (see Oliver et al., 1998). Of
the ten participants in the cognitive deterioration (CD) group, two were deemed to be
experiencing “severe” cognitive deterioration and eight, “moderate” cognitive deterioration in
the Oliver et al. (1998) study, based on the results of serial neuropsychological tests. In the
Oliver et al. study, those in the Moderate Cognitive Deterioration group showed evidence of
deficits in learning and memory and mild signs of agnosia, aphasia and apraxia which had
developed in the last four years. Those in the Severe Cognitive Deterioration group, showed
substantial decline in learning and memory and significant apraxia, aphasia and agnosia
which had developed in the last four years. A family member was the primary carer for 15
(30.6%) of the participants. The remainder were paid carers.

The remaining 39 participants, who were deemed to be free of cognitive decline, were
assigned to one of two ‘No Cognitive Deterioration’ groups: individuals aged 40 years and
over (NCD-40+, \(n = 21\)) and those individuals aged under 40 years (NCD-U40, \(n = 18\)). The
mean age of the individuals in the CD, NCD-40+ and NCD-U40 groups was 46.84 years (SD
= 7.25, range = 32.75 to 56.00), 45.11 years (SD = 3.52, range = 40.08 to 53.92) and 34.67
(SD = 3.89, range = 28.33 to 39.92) respectively. There was a significant difference between
the ages of the CD and NCD-U40 groups (\(t(12)\) unequal variances = 4.93, \(p < 0.001\)) but not
between the CD and the NCD-40+ groups (\(t(12)\) unequal variances = 0.72, NS). Additionally,
group comparisons using a one-way ANOVA revealed no differences between the three
groups prior to the onset of decline in the CD group on the Vineland Adaptive Behavior
Scales (Sparrow, Balla & Ciccetti, 1984), \((F(2,46) = 1.37, NS)\) or the British Picture
Vocabulary Scale (Dunn, Dunn, Whetton & Pintilie, 1982), \( F(2,46) = 2.01, \) NS). Therefore, the CD and NCD-40+ groups were comparable in age and all three groups were comparable in pre-morbid degree of developmental disability. Finally, of the 8 individuals not participating in the present study, 3 were members of the No Cognitive Deterioration group, and 5 were members of the Cognitive Deterioration group (all from the Severe Cognitive Deterioration group).

**Measures**

**Cognitive Deterioration Index.** A Cognitive Deterioration Index was employed to allocate individuals to the Cognitive Deterioration and No Cognitive Deterioration groups (see Oliver et al., 1998). Briefly, the index was derived as follows. A battery of neuropsychological tests, including tests of aphasia, agnosia and apraxia, was administered to each participant on six occasions at a mean of 0, 25, 30, 37, 43 and 50 months prior to the present study (see Oliver et al., 1998). In order to characterize the rate of cognitive change in each individual, the individual growth-trajectory method (Willet, 1988) was employed. Linear regression lines were fitted to the data collected across assessment repeats on the aphasia, agnosia and apraxia tests and the slopes of these regression lines were summed to derive an overall index of the rate of decline. This index was thus indicative of the rate of cognitive deterioration. Thus a low score on the Cognitive Deterioration Index would be signified by a large negative value indicating a substantial negative change in cognitive functioning over time. Both group membership (CD vs. NCD-40+ vs. NCD-U40) and the Cognitive Deterioration Index, were employed as independent variables in the analysis. The mean Cognitive Deterioration Index of the individuals in the CD, NCD-40+ and NCD-U40 groups was -1.48 (SD 1.75), 0.29 (SD 0.40) and 0.17 (SD 0.38) respectively.
Health Related Service Use, Day and Residential Service Use. A structured interview was employed to examine health related service use and residential and day service use. The structured interview consisted of questions grouped into three areas: current residence, day service use, and type of health related service use in the past month. Questions concerning the residence of the participant were grouped into five mutually exclusive categories (i.e., hostel, hospital, group home, family home or independent living). For the purpose of the group analysis, categories were collapsed to examine independent living vs. residential care settings. Questions concerning day occupation were grouped into seven mutually exclusive categories (i.e., none, working full or part-time, Social Education Centre (SEC) full or part-time and sheltered employment full or part-time). Categories were collapsed to examine day service vs. none. Questions concerning the type of health related services used by the individual in the past month were grouped into 12 categories (i.e., GP, community nurse, psychiatry, clinical psychology, social worker, occupational therapist, physiotherapist, optician, audiologist, dentist, respite care and "other"). For the purpose of the group analysis, categories were collapsed to indicate any health related service use in the last month vs. none.

The Life Experiences Checklist. The Life Experiences Checklist (Ager, 1990) is a 50-item questionnaire designed to assess the quality of life of individuals with developmental disabilities. The checklist has five domains: Home (e.g., ‘My home is carpeted and had comfortable furniture’); Leisure (e.g., ‘I visit friends or relatives for a meal at least once a month’); Relationships (e.g., ‘I have several close friends’); Freedom (e.g., Meal times are changed to fit in with my plans’); and Opportunities (e.g., (I can make myself drinks or snacks whenever I want to’), with each domain having ten items. Each item on the scale is worded in the first person and is administered to carers of individuals with developmental disabilities. Carers were instructed to endorse the item that was true for the participant being
profiled. Items that do not apply are left blank. Total scores (i.e., the total number of endorsed items) and domain scores (i.e., the total number of items endorsed for each domain) were calculated. The instrument has a test-retest reliability of .93 and an inter-rater reliability of .96.

The Caregiving Hassles Scale. The Caregiving Hassles Scale (Kinney & Stephens, 1989) is a 42-item questionnaire designed to assess the daily “hassles” of caring for an individual with dementia. The scale has five domains: hassle assisting with basic activities of daily living (nine items, e.g., ‘assisting care-recipient with walking’); hassle assisting with instrumental activities of daily living (seven items, e.g., ‘picking-up after care-recipient’); hassle with care-recipient’s cognitive status (nine items, e.g., ‘care-recipient not showing interest in thing’); hassle with care-recipient’s behavior (twelve items, e.g., ‘care-recipient wandering off’); and hassle with caregiver’s social network (five items, e.g., ‘friends not showing understanding about care-giving’). Items are scored on a four-point scale ranging from "not at all" (a hassle) to "a great deal" (of a hassle). Total scores and domain scores were calculated. The instrument has good psychometric properties, including a Cronbach’s alpha of .91 and a test-retest reliability of .83.

Results

Health Related Service Use, Day and Residential Service Use. Overall, 32 (65.3%) participants lived in residential accommodation. Although more of the CD group (80%) were living in residential accommodation than the NCD-40+ group (66.7%) and the NCD-U40 group (55.6%), the difference was not significant ($\chi^2(2, N = 49) = 1.73$, NS). However, individuals experiencing cognitive deterioration were less likely to receive a day service
(60%) than the NCD-40+ group (95.2%) and the NCD-U40 group (94.4%) and this difference was significant (Fisher’s Exact Test = 6.78, p < 0.05). Finally, there was no difference in the proportion of the CD group using health related services in the last month (60%) in comparison to the NCD-40+ group (42.9%) and the NCD-U40 (44.4%) ($\chi^2 (2, N = 49) = 0.87$, NS).

Life Experiences Checklist and the Caregiving Hassles Scale. The total mean scores for the CD, NCD-40+ and NCD-U40 groups on the Life Experiences Checklist and the Caregiving Hassles Scale are shown in table 1. A comparison of groups using one-way analyses of variance showed that individuals showing cognitive deterioration received fewer life experiences than those who did not show cognitive deterioration and that caregivers caring for individuals with cognitive deterioration experienced more ‘hassles’ than those caring for individuals without cognitive deterioration. In both cases post hoc analyses revealed a difference between the CD group and both NCD groups.

+++ Insert Table 1 about here +++

Table 1 also shows a breakdown of the subscale scores for the Life Experiences Checklist and the Caregiving Hassles Scale by group. To avoid type 1 errors for subscale comparisons, the Bonferroni correction was applied to the required Alpha level which was set at $p = 0.01$. The analyses presented in table 1 show that carers experienced significantly more difficulties in the domains of ‘cognitive’, ‘behaviour’ and ‘basic’ caregiving for those with cognitive deterioration than those with no cognitive deterioration. A similar effect was found for life experiences in the domains of leisure, relationships and opportunities. Because all groups did not differ in terms of the degree of pre-existing intellectual disability, the obtained findings
can not be attributed to group differences in pre-morbid intellectual level. In addition, the significant differences obtained between the two older groups indicate that differences in total and domain scores are associated with cognitive deterioration and not with age related changes, per se.

The Relationship between Cognitive Deterioration, Life Experiences, Carer ‘Hassles’ and Service Use. Pooling the data across groups, partial correlation coefficients with age as a covariate, were computed between the Cognitive Deterioration Index and 1. the total score on the Life Experiences Checklist, 2. the total score on the Caregiving Hassles Scale and 3. total number of services used in the past month. This analysis revealed a significant negative association between the Cognitive Deterioration Index and the Caregiving Hassles total score ($r(46) = -0.73$, $p<0.001$), a significant negative association between the Cognitive Deterioration Index and the number of services used in the last month ($r(46) = -0.37$, $p<0.05$) and a significant positive association between the Cognitive Deterioration Index and the Life Experiences Checklist total score ($r(45) = 0.48$, $p<0.005$). These results indicate that cognitive decline was associated with more ‘hassles’ being experienced by carers, a decrease in the individual’s life experiences and an increase in the total number of services used in the past month when age was held constant.

Discussion

In this study, adults with Down’s syndrome at risk for developing a dementia had been assessed using neuropsychological tests over a four year period. On the basis of these results, it was then possible to compare those who had shown cognitive decline with those in the same age and disability cohort and to examine the effect of degree of decline. However, it
should be noted that participants in the Oliver et al., (1998) study from which this cohort was derived, were initially screened to rule out a level of severity of developmental disability (although the precise degree of developmental disability could not be established), dementia or challenging behavior, which would preclude participation in cognitive testing. The results need to be set against this background. Finally, it is important to note that in this study, those who were deemed to have shown cognitive deterioration primarily had been placed in the Moderate Cognitive Deterioration group in the Oliver et al. (1998) study. Thus, the group was primarily characterised by cognitive deterioration of learning and memory and only mild signs of aphasia, agnosia and apraxia.

The data on place of residence and use of day service showed that those with cognitive deterioration were less likely to be attending a day service than those with no cognitive deterioration. In combination with the data on place of residence, these data suggest that support for those with cognitive deterioration may predominantly be required within residential services.

The data from the Caregiving Hassles Scale, show that it is cognitive and behavioral difficulties and basic care which carers find problematic. These findings support those of Prasher and Filer (1995) who described problems in adults with Down’s syndrome and dementia such as: communication difficulties, orientation within the home, wandering, sleep disturbance and incontinence. The authors also report restlessness, deterioration in communication, wandering and incontinence to be particularly problematic for carers. These kinds of difficulties are also consistent with the reported association between dementia and behavior problems in the general population (Petry, Cummings, Hill & Shapira, 1989; Teri & Logsdon, 1990). The significance of these observations is that behavior change associated
with dementia in the general population can promote distress in carers (Argyle, Jestice & Brook 1985; Rabins, Mace & Lucas, 1982) and, perhaps more importantly, behavioral difficulties can increase the likelihood of institutional care (Chenoweth & Spencer, 1986; Steele, Rovner, Chase & Folstein, 1990).

The relationship between problem behaviors and cognitive deterioration in adults with Down’s syndrome warrants clarification. Disorders of affect, particularly depression, are associated with dementia in the general population (Teri & Wagner, 1992; Wragg & Jeste, 1989) and in individuals with Down’s syndrome and dementia (Burt, Loveland & Lewis, 1992; Dalton & Wisniewski, 1990). It is conceivable therefore, that behavioral disturbance has a stronger association with depression than dementia (see Roeden & Zitman, 1996) and it might be argued that the problems observed in this study arise from a concomitant depression. Similarly, behavioral problems may be associated with specific difficulties of communication as part of a dementia, in the same way that self-injurious behavior and aggression are generally moderated by communication impairments in people with developmental disabilities (Oliver, 1995). Additionally, disorientation arising from a dementia, might lead to wandering or ‘absconding’ which is then reported as problematic (see, Miller & Morris, 1993). Further research should attempt to elucidate the precise nature of the determinants of problematic behavior in adults with Down’s syndrome and cognitive deterioration and the extent to which these behaviors are moderated by decline in specific cognitive domains or affect.

The finding that difficulties for carers are associated with cognitive and behavior problems, may provide an initial focus for service and training development, which aims to ameliorate the stress placed on carers in supporting individuals with Down’s syndrome who develop
cognitive and behavioral impairments. It is notable that those with cognitive deterioration did not access health related services any more than those with no cognitive deterioration. This may in part be because carers were aware that a psychiatrist (AH) and a clinical psychologist (CO) were involved in the research. However this seems unlikely as it was made clear that no support or intervention would be made available. In summary, these findings suggest that carers find the immediate cognitive and behavioral consequences of cognitive deterioration problematic but they are not receiving support from health related services. Further research using a larger sample should examine this issue.

The lack of deployment of services is particularly notable given the primacy of behavior problems. In the general population, difficult behaviors associated with dementia might be ameliorated by behavioral interventions (Hoyer, 1973; Hussain & Brown, 1987; Rosberger & Maclean, 1983). These approaches are familiar to the majority of services working in developmental disability services and support for carers in these areas might offset or delay residential and day service changes (see Force & O’Malley, 1999; Udell, 1999).

The results of the Life Experiences Checklist indicates that those who show cognitive deterioration experience more impoverished life experiences than those with no cognitive deterioration. There were specific differences in the domains of leisure, relationships, and opportunity. The relationship between cognitive deterioration and life experiences warrants further attention. It is likely that the association is mediated by an interaction between service features and cognitive and behavioral variables. Individuals who are disoriented in place, are experiencing communication difficulties and who are showing behavioral problems, may require greater and more specific support to participate in activities which would normally be available (see Dalton & Wisniewski, 1990). Given the potential for aspects of services for
influencing the impact of cognitive decline on life experiences there might be a beneficial effect from interventions which target environmental change.

The results from the Caregiving Hassles Scale are revealing because even though the majority of participants were in services for people with developmental disabilities, as opposed to being cared for by a family member, difficulties were presented to staff in the areas of daily living, cognitive status and behavior. This analysis confirms that some of the main problems experienced by carers are those specifically associated with acquired cognitive and behavioral impairments, as opposed global developmental disability, and that caregivers’ experience of supporting individuals with developmental disabilities is insufficient to help them cope with additional acquired impairments. This analysis is shown to be robust when the potentially confounding variable of age is controlled for in the group comparison and in the correlational analysis. This finding is important as it may mean that service responses to these problems in the general population may require limited modification to be effectively employed for adults who have a developmental disability.

The correlational analysis shows that cognitive deterioration is associated with poor life experiences and with more difficulties being experienced by carers. Thus, both the individual and carers are adversely effected by cognitive deterioration. In combination with the data presented above on day service use and residential placement, it is clear that cognitive deterioration has a substantial impact on individuals and carers which go beyond the immediate cognitive and behavioral impairments. It is unlikely that poor life experiences for the individual are causal of difficulties for the carer but the reverse might be true. That is, as it is more difficult to support individuals showing cognitive deterioration given stable resources, so life experiences decrease. This association should be viewed against the
previous analyses, which show that the difficulties and problems primarily experienced by
carers are in the domains of behavioral and cognitive status and that the services accessed are
not necessarily those which might offer support in these areas.
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Cognitive Change and Down’s Syndrome


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Requests for reprints should be addressed to Prof. Chris Oliver, School of Psychology, University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK. e-Mail: C.OLIVER@BHAM.AC.UK
Table 1

Mean scores and SDs on the Caregiving Hassles Scale and Life Experiences Checklist for Cognitive Deterioration (CD) and No Cognitive Deterioration (NCD) groups. The required Alpha level for the comparisons was set to 0.01 to minimize type 1 errors. Post hoc analyses employed Tukey’s HSD test.

<table>
<thead>
<tr>
<th></th>
<th>(A) NCD-U40 group (n = 18)</th>
<th>(B) NCD-40+ group (n = 21)</th>
<th>(C) CD group (n = 10)</th>
<th>F (2,46)</th>
<th>p</th>
<th>Post Hoc Analysis</th>
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<tr>
<td>Caregiving Hassles Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Basic</td>
<td>0.50 0.79</td>
<td>0.95 1.12</td>
<td>6.30 6.75</td>
<td>12.79</td>
<td>&lt; 0.0005</td>
<td>A, B &lt; C</td>
</tr>
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<td>Instrumental</td>
<td>0.17 0.38</td>
<td>0.76 1.37</td>
<td>0.70 1.25</td>
<td>1.60</td>
<td>N.S.</td>
<td>-</td>
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<tr>
<td>Cognitive</td>
<td>1.17 1.72</td>
<td>2.29 2.74</td>
<td>10.70 5.56</td>
<td>31.07</td>
<td>&lt; 0.0001</td>
<td>A, B &lt; C</td>
</tr>
<tr>
<td>Behaviour</td>
<td>3.39 3.62</td>
<td>2.71 3.35</td>
<td>8.40 3.06</td>
<td>10.15</td>
<td>&lt; 0.0005</td>
<td>A, B &lt; C</td>
</tr>
<tr>
<td>Social</td>
<td>0.17 0.38</td>
<td>0.09 0.44</td>
<td>0.00 -</td>
<td>0.66</td>
<td>N.S.</td>
<td>-</td>
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<td>Total Score</td>
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<td>6.81 6.18</td>
<td>26.10 14.16</td>
<td>23.82</td>
<td>&lt; 0.0001</td>
<td>A, B &lt; C</td>
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<td>Life Experiences Checklist</td>
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<tr>
<td>Home</td>
<td>6.11 1.23</td>
<td>6.05 1.50</td>
<td>5.90 0.74</td>
<td>0.09</td>
<td>N.S.</td>
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<td>Leisure</td>
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<td>5.52 1.50</td>
<td>3.00 2.40</td>
<td>8.84</td>
<td>&lt; 0.001</td>
<td>A, B &gt; C</td>
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<td>4.95 0.97</td>
<td>3.00 0.94</td>
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<td>&lt; 0.0005</td>
<td>A, B &gt; C</td>
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<td>Freedom</td>
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<td>5.19 0.98</td>
<td>4.40 2.17</td>
<td>3.05</td>
<td>N.S.</td>
<td>-</td>
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<td>Opportunities</td>
<td>7.44 1.46</td>
<td>6.62 1.39</td>
<td>4.00 2.58</td>
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<td>A, B &gt; C</td>
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<td>Total Score</td>
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<td>28.38 4.58</td>
<td>20.30 6.78</td>
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<td>&lt; 0.001</td>
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