RUNNING HEAD: DEVELOPING AN ADOLESCENT ATTITUDES SCALE

Development of the Adolescent Attitudes towards Dementia Scale (A-ADS).

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Abstract

Objective: There has been an increasing interest in establishing dementia friendly communities leading to the development and delivery of various dementia awareness initiatives. These initiatives have generally been aimed at adults, however to sustain dementia friendly communities, the involvement of young people is imperative. Very few dementia awareness initiatives exist for young people and none have been independently evaluated to establish their impact. This research aimed to design and develop a scale to measure adolescents' attitudes towards dementia to allow such initiatives to be evaluated.

Methods: The Adolescent Attitudes toward Dementia Scale (A-ADS) was developed in two stages. Firstly, cognitive interviews were conducted with 15 young people and secondly, a new scale (based on items from two existing scales) was piloted with 262 young people, recruited through schools.

Results: A scale consisting of 23 items was developed. Exploratory factor analysis demonstrated that this captured three factors; perceptions of dementia, personal sacrifice and empathy with people living with dementia. The three sub-scales showed adequate internal consistency (>.60), correlated with the original scales ($r = .79$-$.91$, $p < .001$) and correlated with an existing measure of attitudes towards older people at a similar level to the original scales ($r = .47$, $p < .001$).

Discussion: The scale will allow the evaluation of educational initiatives for young people and provide a validated and standardised measure to establish adolescents' attitudes towards dementia.

Introduction

The importance of ensuring that people with dementia retain opportunities to participate in meaningful social interaction in everyday life is widely recognised (Alzheimer's Disease International, 2016). To enable this there is a need to increase understanding and awareness of dementia, and foster dementia friendly communities. Such initiatives are at the forefront of UK policy, such as the Prime Minister's Challenge on Dementia (Department of Health, 2015). One of the core aspects of these policies is the development of initiatives to improve public understanding, awareness and attitudes towards dementia (Alzheimer's Disease International, 2012). The National Dementia Strategy (Department of Health, 2009) specifically mentioned the importance of challenging the stigma associated with dementia and improving understanding of dementia.

However, in order to sustain dementia friendly communities, the involvement of young people is imperative. This has been supported by the desire to create a 'dementia friendly generation', of those aged between 5 and 25, ensuring that young people are educated and aware of dementia (Department of Health, 2015; Alzheimer's Society, 2017), as the likelihood of them knowing someone with dementia increases. One strategy for achieving these aims is through education to reduce unfounded beliefs and stigma, since these often lead to stereotypes and prejudice towards people living with the condition (Mukadam & Livingston, 2012). The importance of education for children and young people was highlighted by an Alzheimer's Society survey in which two thirds of the young people who responded stated that that they would like to help people with dementia but that a lack of understanding prevented them from doing so (Alzheimer's Society, 2015). However, despite this, very little is currently taught about dementia in schools, with one survey demonstrating that only 15% of 60 schools in [geographical area] currently have dementia embedded into the curriculum (Farina, 2017).

Several dementia educational initiatives for children and young people have been developed. These have been mainly delivered through schools (Di Bona, Kennedy & Mountain, 2017; Atkinson & Bray, 2013; Nazir & Bangash, 2015; Parveen, Robins, Griffiths, & Oyebode, 2015; Rylance & Pendleton, 2015) and focused on improving dementia awareness. Novel approaches, such as the initiative being partly delivered by a person living with dementia (Atkinson & Bray, 2013; Rylance & Pendleton, 2015), received positive feedback from students. An initiative that allowed teachers to design their own bespoke dementia education package resulted in projects of different lengths, all of which were reported to show improvements in dementia awareness (Atkinson & Bray, 2013). Qualitative evaluation methods have revealed positive impact on awareness, and in some cases on attitude towards dementia, in relation to all these educational initiatives. However, to date none of the initiatives have been independently evaluated and there has also been no follow-up, meaning that impact, and whether this was maintained over time, cannot be established.

There are mixed messages about existing knowledge and attitudes of young people towards dementia. A recent study identified that over a third of children aged 10 to 12 had not heard of either dementia or Alzheimer's Disease (Baker et al., 2017). However, a UK government poll indicated that over half of the 8-17 year olds surveyed stated that if people understood more about dementia, life would improve for those affected and an Alzheimer's Society survey found that 65 per cent of the children surveyed said they believed people living with dementia should be supported and included in everyday life (Alzheimer's Society, 2015). A further study demonstrated that in schools without dementia on the curriculum, students may have negative attitudes and poor knowledge about the condition (Isaac, Isaac, Farina, & Tabet, 2016). Out of fifteen questions testing knowledge about dementia, participants were able to answer just over six correctly on average. Overall, these studies suggest that children and young people do not currently have enough education about the condition and may hold mixed

attitudes towards people with dementia. Although, contrasting these findings, a recent study in Israel found that 460 high school students showed generally low levels of stigma towards people with Alzheimer's disease (Werner et al., 2017).

However, the above studies used non-validated measures, which limits the usefulness and applicability of their findings. To effectively establish the attitudes of children and young people towards dementia, a validated measure needs to be developed. Whilst two measures of attitudes towards people living with dementia have been developed and validated for adults (O'Connor & McFadden, 2010; Lundquist & Ready, 2008), and more recently for children aged 10 to 12 (Baker et al., 2017), there is no measure specifically for adolescents. A validated measure designed to capture the attitudes of young people towards dementia would facilitate the development of research in this area and also strengthen the effectiveness of evaluations of dementia education initiatives (Baker et al., 2017).

In the present study, a measure was designed to capture attitudes of young people towards dementia was developed in conjunction with a group of young people (stage 1) and initial validation of the measure completed with students recruited from several secondary schools across Northern England (stage 2).

Stage 1: Content development

Aim

In stage 1, the aim was to assess the understandability of items within two existing scales of adult attitudes to dementia in order to ensure that the items and the language used were suitable for the population that the scale would be used with.

Method

As two existing scales of attitudes towards dementia exist, the A-ADS was developed based on items from these. As these scales were both developed with populations of university students, it was not known whether the language was appropriate for adolescents. In view of this, cognitive walkthrough interviews (Wharton et al., 1994), which aim to examine whether participants understand the task they are completing, by asking them to 'think aloud' the meaning of each question and their response to it, were conducted with 15 young people aged 14-17 years. Participants completed two existing adult attitude measures whilst thinking aloud what they perceived each question meant. This was done to allow researchers to identify if there were any problematic items and to inform the most suitable rewording of items, if necessary, to make them culturally and age appropriate.

The Dementia Attitudes Scale (O'Connor & McFadden, 2010) contains 20 items measuring attitudes on a 7-point Likert scale (strongly disagree = 1 to strongly agree = 7). Ten items specifically measure social comfort and 10 items assess dementia knowledge. The Dementia Attitudes Scale has been used with college students aged 18 to 41 years (mean = 23.5 years, SD = 5.7 years) and found to demonstrate very good reliability and validity. The second dementia attitudes scale was developed by Lundquist and Ready (2008), and contains 10 items measured on a 5-point Likert scale (strongly disagree = 1 to strongly agree = 5). This scale contains two subscales: personal sacrifice (6 items) and sympathy for people living with dementia (4 items). This scale was also developed with undergraduate students and has demonstrated good validity and reliability. Higher scores on both of these scales indicate more positive attitudes towards people with dementia.

Results

A total of 15 cognitive interviews were conducted with young people aged 14 to 17 years with a range of academic abilities (recruited from high and low performing schools within the region, based on literacy levels). Interviews lasted between 20 and 40 minutes and

revealed how easily participants understood each item. Based on feedback obtained from the interviews, the wording of some items was substantially amended to be more simple and straightforward for young people to complete (see Table 1). This also follows Baker and colleagues (2017) who adapted wording to be more 'child-friendly' in their scale for children.

INSERT TABLE 1 HERE

The items within O'Connor and colleagues' (2010) scale were generally found to be simpler and easier to understand. Examples of amendments made to wording included replacing the term 'difficult behaviours' with 'aggressive behaviours', since the young people did not understand what was meant by 'difficult behaviours'; and the term 'touching people' was replaced with 'holding hands with people with dementia' to avoid sexual connotations. The scale developed by Lundquist and Ready (2008), despite being shorter in length, proved more challenging for young people. The sentences were perceived to be complex and required the reader to retain and process different ideas and terms. Substantial amendments were made to simplify the items, and terms were replaced with words more familiar to adolescents; for example, 'caretaker' was replaced with 'carer', 'chronic disease' was replaced with 'condition' and 'feeble' was replaced with 'weak'. Also, the reference to helping *families* cope with dementia was replaced with *people* with dementia, to maintain a focus on the person with the condition. Other wording changes clarifying terms that were not familiar to all adolescents and ensuring items did not assume that individuals already spend time with someone with dementia (e.g. "I feel uncomfortable" became "I would feel uncomfortable"). Finally, the items were further amended to reflect more person-centred language based on the Dementia Engagement and Empowerment Project guidelines (DEEP, 2014), for example, the term 'patient' was replaced with 'person with dementia'.

The combination of reworded items from the two existing scales led to a draft adolescent questionnaire consisting of 30 items that were well understood by young people.

For the next stage, the 7-point and 5-point Likert scales were retained from the original questionnaires (i.e. the Lundquist and Ready (2008) scale was responded to on a 5-point Likert scale and the Dementia Attitudes Scale (O'Connor et al., 2010) was responded to on a 7-point Likert scale).

Stage 2: initial validation of the measure

Aim

The aim of stage 2 was to assess the psychometric properties of the (A-ADS), including establishing whether all items were suitable for inclusion in the scale, the factor structure of the scale and its convergent validity. This was done by testing the 30 items with a sample of young people aged 13-18 years.

Method

Prior to data collection, the University ethical approval was sought and granted. Four schools from across Northern England were approached via emails to the head teacher and all agreed to take part. All students in the final two years of high school (aged 14 – 16 years) or sixth form (aged 16 – 18 years) were eligible to participate. Teachers of pupils aged 14-18 were given information sheets describing the study and their involvement. These teachers distributed student and parental information sheets, with parents being given one week to ask for their child to be opted out of the research by completing a response slip on the information sheet. For all students whose parents did not opt out, a questionnaire was distributed at the beginning of the day, to be returned in a sealed envelope to their teacher.

Two hundred and sixty two participants were recruited, this being 68% of the total number of eligible pupils in the participating schools. Participants were aged 13 to 18 (M = 15.5, SD = 1.14) and the majority of participants identified as White British (89%) with 11%

of other ethnic backgrounds including South Asian and Black British. There were more female participants than male (female = 59%). Two hundred and forty four participants (93%) reported knowing what dementia was and 87 (32%) reported knowing someone living with dementia. See Table 2 for a summary of participant demographics.

Participants completed the draft A-ADS. This consisted of all 30 items that were being considered for inclusion in the A-ADS, after rewording from Study 1. Participants also completed the Attitudes Towards Older People measure (Kogan, 1961). This scale consists of 34 statements (17 positive and 17 negative) about older people, e.g. "most old people are very relaxing to be with". Participants responded to items using a Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree).

INSERT TABLE 2 HERE

Results

Data analysis of the factor structure was conducted using SPSS 24. Prior to data analysis, the Likert scaling was standardised so that all responses were considered on a 5-point scale. To achieve this, items from the Dementia Attitudes Scale by O'Connor et al (2010) was reduced from a 7-point Likert scale to 5-point scale (7/6 = 5; 5 = 4; 4 = 3; 3= 2 and 2/1 = 1), following the guidance of Snell's (1964) scaling procedure.

To establish the structure of the measure, a maximum-likelihood exploratory factor analysis (EFA) was conducted on all 30 items. This method is robust enough to moderate any deviation from normality within the data and as there was no previous EFA conducted for the attitudes of adolescents towards dementia, we had no a-priori reason to believe a particular factor structure would emerge. Bartlett's test of sphericity confirmed that correlations between items were large enough for an EFA (χ^2 [435] = 1784.15, $p < .001$). A Keiser-Meyer-Olkin (KMO) test indicated a participant: item ratio of 8.7:1, which exceeds an

adequate number of participants for EFA (KMO = .842).

The first ten initial eigenvalues (and % of variance accounted for) resulting from the factor analysis were 7.08 (23.60%), 2.24 (7.45%), 1.97 (6.56%), 1.54 (5.12%), 1.33 (4.44%), 1.28 (4.26%), 1.18 (3.93%), 1.04 (3.46%), .95 (3.16%), and .92 (3.07%). Of the 30 items, 27 items loaded above the .40 cut off considered a reasonable factor loading (Velicer, Peacock, & Jackson, 1982) and 7 loaded above .60. Twenty-one items loaded on the first factor, five items loaded on the second factor and two items loaded on the third factor, at .40 or above. Only two of these items loaded on more than one factor. The fourth factor was poorly defined, with only one item loading above .40 (see Table 3).

To confirm the structure of the A-ADS, a parallel analysis of 1,000 data sets using a 95% cutoff (O'Connor, 2000) was conducted. The first five eigenvalues extracted from the simulated data sets were equal to or less than 1.69, 1.59, 1.52, 1.45 and 1.40 respectively. In the actual data set, only the first three eigenvalues of 7.08, 2.24 and 1.97 exceeded chance values, suggesting that a three-factor structure underlies the data. Based on these analyses, three factors were extracted: perceptions of dementia, personal sacrifice, and empathy with people living with dementia.

INSERT TABLE 3 HERE

Items that loaded on to more than one factor were further inspected and placed into one domain based on the theoretical underpinning of item and strength of factor loading. Five of the six items that loaded below .40 on all factors were removed. One item was included that loaded at -.342 on the first factor (perceptions of dementia) and .343 on the third factor (empathy with people living with dementia). This item, "I do not think that people with dementia can make a positive contribution to society", was retained as there were few items measuring empathy with people with dementia and this item was thought to clearly measure the domain. One item "In the future, I can imagine willingly becoming a carer for one of my

parents if they were diagnosed with dementia" was removed as it was too similar to "I cannot imagine looking after someone with dementia", which was statistically stronger. A further item, "I don't know much about dementia" was removed as it did not load highly on any factor and also did not theoretically fit well with any factor. Based on the above analyses, twenty-three items were selected to form the Adolescent Attitudes Towards Dementia Scale (A-ADS). The final items selected loaded on three factors, perceptions of dementia, personal sacrifice and empathy with people living with dementia. The fourth factor extracted initially, was poorly defined and therefore no items representing this construct were included. The final items, along with mean scores and standard deviation can be seen in Table 4. The majority of items (nineteen) focused on perceptions of dementia, with four loading on personal sacrifice and two loading on empathy with people living with dementia. Several items loaded onto two factors. "I cannot imagine caring for someone with dementia" loaded on both perceptions of dementia and personal sacrifice, whilst "people with dementia deserve my sympathy and support more than patients with other illnesses" loaded on both personal sacrifice and empathy with people living with dementia. As the scale is designed to yield a single score reflecting one underlying construct of 'attitudes towards dementia', rather than to comprise sub-scales, items that loaded on more than one factor were deemed suitable for inclusion.

INSERT TABLE 4 HERE

To confirm whether each of the three subscales each measured an underlying construct, the internal consistency of the scale was conducted. This confirmed that personal sacrifice sub-scale (α =.79), empathy with people with dementia (α =.69), and perceptions of dementia (α =.61), all exceeded the standard value for adequate levels of internal consistency (>.60; Loewenthal, 2004).

The convergent validity of the scale was tested to demonstrate whether the scale

correlated with other constructs as would be theoretically expected (Wood & Boyce, 2017). Scores on the new scale and the two original scales were correlated with the Attitudes Towards Older People scale (ATOP; Kogan, 1961). This demonstrated that the Adolescent Attitudes Towards Dementia Scale correlated with the ATOP scale at $r = .47$, $p <.001$. The scores on the Dementia Attitudes Scale (O'Connor & McFadden, 2010) correlated with the ATOP scale at $r = .48$, $p <.001$ and scores on the Lundquist and Ready (2008) scale correlated with the ATOP scale at $r = .29$, $p < .001$. These analyses demonstrate that the newly developed scale (A-ADS) correlates with another existing measure of attitudes towards older people at a comparable level to the original scales measuring attitudes towards people with dementia.

Analyses were also conducted to establish whether any correlations existed between scores on the A-ADS, and scores on the Dementia Attitudes Scale (O'Connor & McFadden, 2010), the Lundquist and Ready (2008) scale, and the Attitudes Towards Older People measure (Kogan, 1961; see Table 5). As these scales were designed to measure similar constructs, correlations were expected to exist between scores on these scales. As the data were normally distributed (Shapiro Wilk = .985-.987, p >.05 for all scales), Pearson's correlations were conducted. To correct for multiple comparisons, boostrapping was used to generate 95% confidence intervals (CI) for correlation coefficients. This technique generates CI by randomly resampling the original dataset 2,000 times (Mooney and Duval (1993). This analysis demonstrated that these scales all correlated significantly, suggesting that they were measuring the same construct (see Table 5).

INSERT TABLE 5 HERE

Discussion

The present study reports the development of the Adolescent Attitudes towards Dementia Scale (A-ADS). It is hoped that the development of this scale encourages research into the attitudes of adolescents, a research area that until now has focused mainly on adults (Baker et al., 2017; Werner et al., 2017). This is particularly important as interventions to tackle stigma towards dementia at an early age are thought to be key to developing positive attitudes (Werner et al., 2017). More effort is required to ensure that dementia is embedded into school curriculums (Isaac et al., 2016), to improve education around dementia. However, to evaluate the impact of educational initiatives, validated measures are required. This newly developed scale will allow such research to be conducted.

The (A-ADS) has been developed in collaboration with young people, ensuring that the language is appropriate and easily understood. Psychometric analyses demonstrated that the scale comprised three well-defined factors: perceptions of dementia, personal sacrifice, and empathy with people living with dementia, however scores on the overall scale reflect a cohesive underlying construct. These factors incorporate the main aims of The National Dementia Strategy (Department of Health, 2009), which focuses on challenging the stigma associated with dementia and improving understanding.

However, there are limitations associated with the development of the A-ADS. While the correlation between the A-ADS and the Lundquist and Ready scale was so high that this might lead to the need for the new scale to be questioned, it is noted that the significantly adapted language in the A-ADS should make it more acceptable to the intended target group, and this might be expected to lead to less fatigue, and less missing data. Furthermore, although young people were consulted about wording and understanding of items, this small sample may not represent young people more widely as it excluded those aged under 14 years and all participants were recruited from a single region of the UK. Almost two thirds of participants were female, and although a recent meta-analysis has demonstrated no overall

differences between genders on attitudes towards older people (Kite et al., 2005), several studies have demonstrated that females have a more positive attitude towards older people (McConatha et al., 2003). Therefore, the scale needs further validation, including confirmation of the structure of the scale using Confirmatory Factor Analysis, with individuals across the UK and other countries.

Conclusion

In conclusion, improving education around dementia for young people is key to ensuring a dementia friendly generation. It is hoped that the initial development of the A-ADS will allow the evaluation of educational initiatives for young people and provide a validated and standardised measure to establish the attitudes towards dementia.

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Table 1. Wording changes to items after interviews

Original wording	New wording
If my mum or dad asked me to spend Saturday afternoon with a family friend who has dementia rather than hang out with my friends, I would be annoyed and would rather see my friends	I would be annoyed if my parents asked me to spend time with a family friend who has dementia rather than see my friends.
I would donate my time or money to help families cope with dementia	I would donate my time or money to help people with dementia
I do not think that people with dementia can still positively contribute to our society	I do not think that people with dementia can make a positive contribution to society
People with dementia deserve my sympathy and support more than patients with other illnesses	People with dementia deserve my sympathy and support more than people with other conditions
I am comfortable touching people with dementia	I am comfortable holding hands with people with dementia
I would avoid an agitated person with dementia	I would avoid a person with dementia who was all 'worked up'
People with dementia can feel when others are kind to them	People with dementia can tell when others are kind to them
I feel frustrated because I do not know how to help people with dementia	I feel annoyed because I do not know how to help people with dementia
It is possible to enjoy interacting with people with dementia	It is possible to enjoy spending time with people with dementia
I cannot imagine caring for someone with dementia	I cannot imagine looking after someone with dementia
I admire the coping skills of people with dementia	I admire how people with dementia deal with things
I feel uncomfortable being around people with dementia	I would feel uncomfortable being around people with dementia

Table 2. Stage 2 participant demographic characteristics

	N = 262
Gender	
Male	100 (38%)
Female	155 (59%)
Missing	*7 (3%)*
Age	
13	2 (1%)
14	43 (16%)
15	91 (35%)
16	82 (31%)
17	33 (12%)
18	10 (4%)
Missing	*1 (1%)*
Ethnicity	
White British	234 (89%)
British South Asian	11 (4%)
British Black African	7 (3%)
Arab	1 (0.2%)
Asian	3 (0.8%)
British Jamaican	1(0.2%)
British Caribbean	1(0.2%)
White British / Asian	1(0.2%)
Romanian	1(0.2%)
Missing	*1(0.2%)*

Table 3. Standardized item loadings of .3 and above for a scale incorporating four factors.

	1	2	3	4
1. I would volunteer to spend time with people with dementia	**.702**			
2. I would be annoyed if my parents asked me to spend time with a family friend who has dementia rather than see my friends. (R)	**-.492**			
3. I would donate my time or money to help families cope with dementia	**.624**			
4. If I saw someone with dementia struggling to do something, I would help them	**.558**			
5. In the future, I can imagine willingly becoming a carer for one of my parents if they were diagnosed with dementia	.446			-.318
6. I do not think that people with dementia can still positively contribute to our society (R)	-.342		**.343**	
7. I feel bad for people with dementia because it is one of the worst conditions to have		.311		
8. People with dementia are weak and cannot maintain a regular and productive lifestyle once diagnosed (R)		.349		
9. People with dementia deserve my sympathy and support more than people with other conditions		.467	**.517**	
10. I feel bad for people with dementia because they may have trouble remembering happy events and memories from their life	.445		**.345**	
11. It is rewarding to work with people who have dementia	**.607**			
12. I am afraid of people with dementia (R)	-.406			
13. People with dementia can be creative	**.485**	.333		
14. I feel confident around people with dementia	**.605**			
15. I am comfortable holding hands with people with dementia	**.588**			
16. Every person with dementia has different needs	**.638**			
17. I don't know much about dementia (R)		.444	-.321	
18. I would avoid a person with dementia who was all 'worked up' (R)	**-.529**			
19. People with dementia like having familiar things nearby	.315	.326		.469
20. It is important to know the past history of people with dementia	**.485**			.350
21. It is possible to enjoy spending time with people with dementia	**.649**			
22. I feel relaxed around people with dementia	**.545**		.355	
23. People with dementia can enjoy life	.507		**-.388**	

24. People with dementia can tell when others are kind to them	**.514**		
25. I feel frustrated because I do not know how to help people with dementia (R)		**.562**	
26. I cannot imagine looking after someone with dementia (R)	**-.571**	**.448**	
27. I admire how people with dementia deal with things	**.556**		
28. We can do a lot now to improve the lives of people with dementia	**.556**		
29. I feel uncomfortable being around people with dementia (R)	-.381	**.466**	
30. Aggressive behaviours may be a form of communication for people with dementia	.392		-.396

Note: (R) denotes items that are reverse scored. Loadings in bold indicate the allocated factor for the item used in the final factor analysis (selected by theoretical content if loading balanced between two factors).

Table 4. Final items for the scale with mean and standard deviations.

Items	M (SD)	Subscale
1. I would volunteer to spend time with people with dementia	3.55 (7.04)	Perceptions of dementia
2. I would be annoyed if my parents asked me to spend time with a family friend who has dementia rather than see my friends. (R)	4.06 (.95)	Perceptions of dementia
3. I would donate my time or money to help families cope with dementia	3.80 (.84)	Perceptions of dementia
4. If I saw someone with dementia struggling to do something, I would help them	4.42 (.76)	Perceptions of dementia
5. I do not think that people with dementia can still positively contribute to our society (R)	3.56 (.98)	Empathy towards people with dementia
6. People with dementia deserve my sympathy and support more than people with other conditions	2.81 (.93)	Empathy towards people with dementia
7. I feel bad for people with dementia because they may have trouble remembering happy events and memories from their life	4.17 (.82)	Empathy towards people with dementia
8. It is rewarding to work with people who have dementia	3.68 (.86)	Perceptions of dementia
9. People with dementia can be creative	3.57 (.82)	Perceptions of dementia
10. I feel confident around people with dementia	3.27 (.86)	Perceptions of dementia
11. I am comfortable holding hands with people with dementia	3.43 (.94)	Perceptions of dementia
12. Every person with dementia has different needs	4.06 (.75)	Perceptions of dementia
13. I would avoid a person with dementia who was all 'worked up' (R)	4.44 (1.03)	Perceptions of dementia
14. It is important to know the past history of people with dementia	3.94 (.84)	Perceptions of dementia
15. It is possible to enjoy spending time with people with dementia	4.00 (.82)	Perceptions of dementia
16. I feel relaxed around people with dementia	3.30 (.87)	Perceptions of dementia
17. People with dementia can enjoy life	3.81 (.88)	Empathy towards people with dementia
18. People with dementia can tell when others are kind to them	3.74 (.84)	Perceptions of dementia
19. I feel annoyed because I do not know how to help people with dementia	3.20 (1.00)	Personal sacrifice
20. I cannot imagine looking after someone with dementia (R)	4.34 (1.04)	Personal sacrifice
21. I admire how people with dementia deal with things	3.78 (.88)	Perceptions of dementia
22. We can do a lot now to improve the lives of people with dementia	3.77 (.82)	Perceptions of dementia
23. I feel uncomfortable being around people with dementia (R)	4.54 (1.08)	Personal sacrifice

Table 5. Correlations between scales

	A-ADS	ATOP	DAS	LRS
A-ADS	-	.49*	.75*	.94*
ATOP	.49*	-	.32*	.50*
DAS	.75*	.32*	-	.57*
LRS	.94*	.50*	.57*	-

Note: A-ADS = Adolescent Attitudes towards Dementia Scale, DAS = Dementia Attitudes Scale, LRS = Lundquist & Ready Scale, ATOP = Attitudes Towards Older People scale. *p < .001