A longitudinal study of 340 young people with or without a visible difference: The impact of teasing on self-perceptions of appearance and depressive symptoms

Abstract

Previous research in both the general population and in those with a visible facial difference has identified potential associations between teasing, dissatisfaction with appearance and emotional distress. However, most studies are based on cross-sectional and retrospective methodology, restricting the interpretation of findings. The present study explored the longitudinal impact of perceived teasing on satisfaction with appearance and depressive symptoms in young people with and without a visible congenital condition. Routine psychological assessments were conducted at age 10 and 16 years (N = 340). Experiences of teasing after the age of 10 significantly impacted on appearance evaluations and depressive symptoms in adolescent females. The impact of teasing on adolescent males was possibly counteracted by reports of more positive social experiences. Early identification of perceived teasing in all children to prevent the development of emotional problems and dissatisfaction with appearance is of vital importance.

KEY WORDS: cleft, longitudinal, social, teasing, appearance, depression.

Introduction

Within the general population, appearance concerns are deemed to be 'normative' (Cash & Pruzinsky, 2004; Grogan, 2007). Adolescence in particular is known to be a challenging time, in which 'blending in' and belonging to a social group is central to psychological wellbeing, and in which a key component of evaluating social and psychological adjustment is appearance (Frisén, Lunde, & Berg, 2015). Adolescence is also a key time for appearance-related comments, teasing and bullying to occur (Lovegrove & Rumsey, 2005), which are thought to impact further on subjective appearance evaluations (Menzel et al., 2010; Smolak, 2004). Concurrently, potential associations between teasing, dissatisfaction with appearance and psychological distress have been proposed (Bellmore & Cillessen, 2006; Juvonen, Nishina, & Graham, 2000; Lunde & Frisen, 2011; Menzel et al., 2010).

One group of young people who may be particularly vulnerable to feeling dissatisfied with their appearance, and to the associated social challenges, are those born with a visible facial difference (Rumsey & Stock, 2013). Research has identified a number of psychosocial challenges for this group (Rumsey, 2002), including staring, questions, comments and aversive behaviours from their peers. However, more recent studies in the field of visible difference have highlighted findings which show levels of adjustment to be in line with, or better than those of their peers (Berger & Dalton, 2009; Feragen, Kvalem, Rumsey, & Borge, 2010). While conflicting research findings may partly be explained by the complex, multifaceted and fluctuating nature of adjustment, differences in findings also reflect methodological problems. One major methodological problem, both in the general appearance literature, and regarding research on visible conditions, is the lack of longitudinal datasets. In the absence of longitudinal data, conclusions such as the directionality of associations

between negative social experiences, dissatisfaction with appearance, and emotional distress are severely limited.

The Challenges of a Visible Facial Difference

The prevalence of young people with a 'significant' visible facial difference has been calculated to be between one in fifty and one in a hundred (Changing Faces, 2010; Partridge & Julian, 2008). A large proportion of such visible differences are present from birth, such as the most frequent craniofacial condition observed in humans (Cox, 2004), cleft lip and/or palate (CL/P). In spite of surgical and other interventional procedures from birth through to adulthood, young people with a cleft may feel that they differ from others in their facial appearance and/or speech. Psychological adjustment to a visible difference such as CL/P is multifaceted, and research investigating how affected individuals fare in relation to their peers without a visible difference has thus far been largely inconclusive (Rumsey & Stock, 2013). However, some areas of emerging consensus have been identified, specifically highlighting potential difficulties in relation to subjective satisfaction with appearance, social interactions and symptoms of anxiety and depression (Hunt, Burden, Hepper, & Johnston, 2005), in addition to potential appearance-related teasing (Hunt, Burden, Hepper, Stevenson, & Johnston, 2006, 2007; Shavel-Jessop & Shearer, 2013; Turner, Thomas, Dowell, Rumsey, & Sandy, 1997). Traditionally, it has been assumed that young people with CL/P and other visible conditions would experience more teasing and poorer self-perceptions as a result of their visible difference. However, the literature offers conflicting perspectives, with some studies reporting more positive social experiences and a comparable or higher level of appearance satisfaction in young people with a cleft than has been demonstrated in the general population (Berger & Dalton, 2009; Feragen et al., 2010), suggesting that this relationship is not straightforward. Furthermore, results and interpretations of findings are mostly based on

cross-sectional designs, due to a lack of longitudinal datasets. Some of these contradictory findings could also be explained by differences in the choice of measurements (Stock, Hammond et al., in press), such as whether appearance satisfaction is based on self-perceptions or is evaluated by other people. Psychological perspectives of adjustment to a visible difference have clearly demonstrated the centrality of subjective evaluations, compared to those based on more objective measures of visibility (Appearance Research Collaboration, 2009; Moss, 2005; Ong et al., 2007). Conflicting findings may also be related to sample characteristic, such as representativeness, gender distribution and age (Rumsey & Stock, 2013).

Teasing, Appearance, and Emotional Adjustment: Directionality of Associations

Evidence that negative social interactions and peer harassment can impact on self-perceptions of appearance and emotional adjustment has been reported in both the general population (Bellmore & Cillessen, 2006; Lunde & Frisen, 2011; McDougall & Vaillancourt, 2015; Menzel et al., 2010) and in young people with a visible condition (Feragen & Borge, 2010; Hunt et al., 2006, 2007). More specifically, factors such as the timing and duration (Rueger, Malecki, & Demaray, 2011) and the intensity of the emotional reaction to experiences of peer victimisation (Kvalem, von Soest, Roald, & Skolleborg, 2006) have been shown to play an important role for the impact of negative social experience on emotional adjustment. Again, the cross-sectional and retrospective nature of most studies on congenital visible conditions to date has prevented a comprehensive understanding of the direction of these associations and of how these relationships may change over time (Smolak, 2004). Teasing and peer harassment may be a cause or a consequence of psychological problems, or a combination of both (McDougall & Vaillancourt, 2015; Reijntjes, Kamphuis, Prinzie, & Telch, 2010). As has been shown within the general population (Harter, Stocker, & Robinson,

1996; Lunde & Frisen, 2011; Webb, Zimmer-Gembeck, & Donovan, 2014), teasing and bullying in young people with visible conditions could be expected to trigger or exacerbate dissatisfaction with appearance (Feragen & Borge, 2010). However, emotional difficulties may also precede subsequent teasing. Individuals with a low appearance self-concept or a high level of social anxiety are more likely to perceive ambiguous social experiences as threatening, and to interpret these experiences as appearance-based rejection (Frisén, Lunde, & Hwang, 2009; Lavell, Zimmer-Gembeck, Farrell, & Webb, 2014; Rosser, Moss, & Rumsey, 2010). In parallel, positive social experiences, such as peer acceptance, have been shown to protect against emotional distress in a longitudinal study from the general population (Holsen, Kraft, & Roysamb, 2001). Interestingly, more positive self-perceptions of social acceptance have been found in the CL/P population compared to reference groups (Feragen & Stock, 2015; Feragen, Stock, & Kvalem, 2015), which could affect the pathways between experiences of teasing and satisfaction with appearance in this population. However, in order to untangle the directionality of these associations, and to inform prevention and intervention more generally, longitudinal approaches are needed. Further, given the prospective contributions of satisfaction with appearance to emotional adjustment, an important research priority should be to investigate the development of appearance dissatisfaction from childhood to adolescence and to examine the impact of social experiences, positive as well as negative, on this central variable.

The Significance of Gender and Conditions Additional to the Cleft

A number of additional factors may also impact upon the relationships between teasing, appearance concerns and emotional adjustment. In the general population, the nature of appearance evaluations, in addition to its risk factors, outcomes and developmental course, are known to vary according to gender (Bucchianeri, Arikian, Hannan, Eisenberg, &

Neumark-Sztainer, 2013; Smolak, 2004). Females from the general population have been shown to report higher levels, and earlier onset, of emotional distress (Twenge & Nolen-Hoeksema, 2002; Wichstrom, 1999), and to be less satisfied with their appearance over time than their male peers (Eisenberg, Neumark-Sztainer, & Paxton, 2006; Frisen & Anneheden, 2014). Similar gender differences have been demonstrated in young people with a cleft (Feragen et al., 2015). Gender-wise comparisons between clinical samples and the general population do not suggest any differential processes that would strengthen or reduce expected differences between males and females with CL/P (Feragen & Stock, 2015; Feragen et al., 2015). Regarding the impact of negative social experiences such as teasing, females from the general population, in comparison to males, have demonstrated residual effects of peer victimisation, even after the cessation of teasing and bullying (Rueger et al., 2011). Less evidence is available, however, for gender differences in the impact of teasing and peer victimisation on emotional adjustment (Rueger et al., 2011). One study found that the risk for depression and emotional problems was related to the frequency of teasing in males, while this association was present in females irrespective of the frequency of teasing (Brunstein Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007). To the present authors' knowledge, no studies have investigated the residual effects of teasing on emotional adjustment, or differential consequences of teasing on appearance satisfaction in young people with a visible difference, based on a longitudinal dataset.

A second contributory factor in the relationship between teasing, appearance satisfaction and emotional symptoms in cleft samples could be the presence of an additional condition, such as a genetic syndrome, developmental delay, or learning difficulties. These conditions are prevalent in young people with CL/P (Sivertsen et al., 2008), and are known to potentially affect psychological functioning (Feragen, Stock, & Rumsey, 2014). Therefore,

their presence, particularly in cleft samples, should be accounted for and controlled when possible (Feragen et al., 2014).

The Present Study

based on previous studies investigating general adjustment in a similar sample of young children with a cleft (Feragen & Stock, 2015), the present study hypothesised that low satisfaction with appearance or emotional problems would not precede or explain experiences of teasing. Perceived teasing at a younger age, however, was expected to have consequences on future emotional adjustment and satisfaction with appearance.

The aim of the present study was to investigate the impact of self-reported teasing on appearance satisfaction and depressive symptoms in young females and males with a visible or non-visible congenital condition using a longitudinal perspective. More specifically, the present study: (a) Investigated the frequency of teasing reported by young people with and without a visible condition, across gender and age; (b) Investigated longitudinal changes in self-reported positive and negative social experiences, appearance satisfaction, and depressive symptoms measured at age 10 and again at 16 years; (c) Investigated the impact of teasing on self-reported appearance satisfaction and depressive symptoms over time; (d) Explored the potential impact of key background characteristics (gender, cleft visibility, and additional conditions) in participants at high risk for dissatisfaction with appearance and with high levels of depressive symptoms.

Method

Participants and Procedure

The present study was based on a retrospective review of case records of young people with CL/P. Norway offers a centralised treatment setting, divided between two regional multidisciplinary teams. Allocation to one of the two teams is based on place of residence

(geographical location). The Oslo-team is responsible for treating 2/3 of the total cleft population, including patients from all parts of the country except for the region close to the second team. Due to the centralisation of treatment, the sample can be expected to be highly representative of the population under study.

The longitudinal data consists of measures administered during routine psychological assessments at age 10, and follow-up assessments at age 16. The team's clinical psychologist conducted the psychological assessments. Assessment at age 10 consists of a semi-structured interview and self-completed questionnaires, while assessments at age 16 are based on a short individual meeting with each patient and a self-completed questionnaire. At both ages, the assessments also include a meeting with the participant's parent(s) and completion of a parent-rated questionnaire.

The Regional Committee for Medical Research Ethics granted ethical approval for the study. All participants born from 1992 to 1998 who attended the routine 10 and 16-year-old assessments (n = 443) from August 2002 to 2009 (assessments at age 10) and from January 2008 to June 2015 (assessments at age 16) were eligible for inclusion in the study. Due to severe developmental problems, some participants (n = 20) were not able to complete the questionnaires and were therefore not included in the sample. Further, assessment at one time point was missing for 40 participants. The reason for this could be that the family had moved into or out of the team, the case records were not found, or the child was unable to fill out the questionnaire at one age point due to a medical or psychological condition other than the cleft. Consent was therefore sought for the remaining 383 participants. Among those, 340 gave their consent to participate (88.8%).

Participants' cleft types included cleft lip and palate (CLP, n = 180; 52.9%), cleft lip or cleft lip alveolus, (CLA, n = 36; 10.6%1), cleft palate (CP, n = 104, 30.6%) and

submucuous cleft palate (SMCP, *n*= 20; 5.9%). Participants were categorized into two groups: children with 'visible' clefts (CLP and CLA, *n* = 216; 63.5%) and 'non-visible' clefts (CP/SMCP, *n* = 124; 36.5%). There were 135 female (39.7%) and 205 male participants (60.3%). Gender distribution varied across cleft type, 46.8% males among those with a non-visible cleft, and 68.1% males among those with a visible cleft. These figures are in line with expected prevalence rates for this population (Sivertsen et al., 2008).

Additional Conditions. Information was gathered about additional diagnoses or conditions with the potential to affect cognitive and/or psychological functioning in the participating sample. A total of 13 participants had a diagnosed syndrome (3.8%), such as 22Q11, Treacher Collins, Goldenhar or Sticklers. Furthermore, 90 participants (10 of these with a diagnosed syndrome), had one or several conditions additional to the cleft (26.5%), such as developmental delay, learning difficulties, dyslexia, autism spectrum disorders and attention deficit and/or hyperactivity disorders (AD/HD). Information about additional conditions was found in the participants' case records, discussed during the routine assessment, and/or was given by the parents.

Measures

Social experiences (Ages 10 and 16). The Child Experience Questionnaire, CEQ (Pertschuk & Whitaker, 1982) reflects the child's self-reporting of positive and negative social experiences on a 5-point Likert scale. The questions in the scale relate to topics such as relationships with friends ("I play with friends at school"), social isolation ("I try to hide from people"), and negative peer experiences ("People stare at me"). Both positively and negatively worded items are included, to avoid systematic response bias. Scores are converted so that high scores on the CEQ reflect positive social experiences. The scale has been shown to possess satisfactory internal consistency (Age 10: α = .73; Age 16: α = .82)

and medium to high associations with other measures of social functioning (r = .50-.67) in two large, representative Norwegian samples among children with CL/P (Feragen & Stock, 2015; Feragen et al., 2015).

Self-reported teasing (Ages 10 and 16). Information about the experience of previous and current teasing and/or bullying was provided by the participants at age 10 and 16. At both time points, the participants were asked whether they experienced current and/or previous teasing or bullying (dichotomous variable). Hence, information was gathered about teasing before and at age 10, in addition to before and at age 16, providing a present and a retrospective measure of teasing/bullying for both time points. Information about previous teasing at age 16 did not contain details about the timing of the teasing. Therefore, some of the retrospective registration of teasing at age 16 could potentially overlap with the teasing registered at age 10.

Satisfaction with appearance (Ages 10 and 16). The Cleft Hearing, Appearance and Speech Questionnaire (CHASQ, previously called SWA, developed by the Psychology Special Interest Group of the Craniofacial Society of Great Britain and Ireland) reflects satisfaction with cleft-related and non-cleft-related features of the face, as well as satisfaction with speech, overall appearance and the perceived visibility of the cleft. Each rating is made on an interval scale of 0 to 10 where a score of 10 indicates high levels of satisfaction with appearance. The mean total score of a 12-item version of the scale was used in the present study in the child group (range 0-10), while four items were used at age 16, measuring satisfaction with general appearance and the face, in addition to subjective evaluations of cleft visibility and the cleft's effect on social relationships. The CHASQ has been reported to possess good to excellent internal consistency (Age 10: α = .89; Age 16: α = .75) and

satisfactory to good validity in two large and representative Norwegian samples (Feragen & Stock, 2015; Feragen et al., 2015).

Depressive symptoms (Age 10). The Personality Inventory for Children, PIC (Wirt, Lachar, Klinedinst, & Seat, 1984) is a multidimensional personality inventory consisting of 280 true-false items. It provides good coverage of psychosocial adjustment through various behavioural, cognitive, emotional and interpersonal domains, using the child's mother as the informant. The PIC provides an empirical classification based on 12 clinical scales, placing a T-value within normal limits, or within the category of mild, moderate or severe problems. In the current study, the clinical scale "Depression" was utilised. A Norwegian version of the instrument was used (Troland, 1988). Internal consistency (α = .59-.86; M = 0.74), test-retest reliability (r = .46-.94; M = 0.86), and validity have been extensively evaluated and found to be satisfactory (Wirt et al., 1984). Internal consistency was high (α = .83) in a similar Norwegian sample of 10-year-olds with a cleft (Feragen & Stock, 2015).

Depressive symptoms (Age 16). The shortened version of the Hopkins Symptom Checklist, HSCL-25 (Kandel & Davies, 1982) measures depressive symptoms through seven items (HSCL-7) and was administered at age 16. Tambs and Moum (1993) have demonstrated that this strongly abbreviated version of the instrument correlates well (r = .92) with the original HSCL-25. Each item, such as ''Feeling unhappy, sad, or depressed'' and ''Feeling hopeless about the future,'' was rated on a frequency of occurrence over the preceding 14 days, ranging from never (1) to very much (4). Mean scores falling between the clinical cut-off score of 1.75 and 2.00 on the HSCL-7 are interpreted as moderate levels of depressive symptoms, while mean scores above 2.00 are indicative of severe levels of depressive symptoms (Rognerud, Strand, & Dalgard, 2002). Internal consistency was high (α = .83) in a similar Norwegian sample of 16-year-olds with a cleft (Feragen et al., 2015).

Statistical Analysis

Statistical analyses were performed using SPSS 22 (IBM Corp, Armonk, NY). Most analyses were performed separately for gender and across the two time points. For categorical variables, group differences were tested using Pearson's chi-square, while paired *t*-tests, as well as ANOVA, were used for continuous variables. Satisfaction with appearance and social experiences were measured with the same instrument at age 10 and 16, and scores could therefore be compared accordingly. Two different measures were used when investigating depressive symptoms in childhood and in adolescence. Therefore, *z*-scores were calculated and used when comparing scores across the two time points.

Paired sample *t*-tests were used when comparing outcome measures across the two age groups. In cases of significant differences between means, Cohen's *d* effect sizes were calculated. When calculating effect sizes, dependence among means was controlled for by entering the correlation between the two means, so that Morris and DeShon (2002) equation 8 could be applied.

In order to control for the impact of cleft visibility and the presence of an additional condition on the two outcome variables, a preliminary regression analysis was conducted. Explained variance (R^2) and standardised beta-values are only provided in cases of statistically significant results.

Differences in means on satisfaction with appearance and levels of depressive symptoms between groups reporting teasing at different time points were subsequently tested with ANOVA. A dummy variable was created so that satisfaction with appearance and depressive symptoms could be compared across each time point. Due to well-known gender differences during adolescence, all analyses were run separately for females and males. Eta square (η^2) effect sizes were calculated. Cohen's guidelines (1988) were used to interpret eta

square: a small effect is 0.01; a medium effect is 0.059; a large effect is 0.138. Effect sizes were not calculated in cases of statistically non-significant results.

In the last section of the results, potential risk groups that were identified through the ANOVA (clinically high dissatisfaction with appearance and high levels of depressive symptoms) were explored, comparing the distribution of cleft type and the presence or absence of an additional condition across groups.

Results

Frequency of Teasing

The frequency of reported teasing is presented in Table 1

Approximately 25% of the total sample reported no experiences of teasing at any time point, with significantly more males than females having never experienced teasing ($\chi^2 = 4.17$, $p < .05$). Two thirds of the sample reported teasing at one or two time points (67.2%, n = 227), while 8.3% had experienced ongoing teasing from early childhood, through early adolescence, and were still experiencing teasing at age 16 ($n = 28$). As can be seen in Table 1, twice as many females reported teasing through all time points than males (11.9%, $n = 16$ vs. 5.9%, $n = 12$; $\chi^2 = 6.56$, $p < .05$).

Among the children reporting teasing at age 10, as many as 80.6% ($n = 29$) had also been teased before the age of 10. as Additionally, 97.5% ($n = 39$) of those reporting teasing at age 16 had been teased at one or several time points before the age of 16. Approximately 20% of those reporting previous teasing at age 16, irrespective of gender, did not report any teasing at or before the age of 10, indicating that the teasing happened between the ages of 10 and 16.

There were no statistical differences at any point in time in the frequency of reported teasing between young people with and without a visible difference ($\chi^2 = 1.13$, $p > .05$).

Similarly, there were no statistical differences in the frequency of teasing at any time point between young people with or without a condition additional to the cleft ($\chi^2 = 5.56$, $p > .05$). The exception was that more children with a cleft without an additional condition reported never having been teased (27.3%, $n = 68$) compared to 16.9% ($n = 15$) of the children with a cleft and an additional condition ($\chi^2 = 3.87$, $p < .05$).

Longitudinal Changes From Childhood to Adolescence

Longitudinal comparisons across the two age groups, using paired sample t-tests are presented in Table 2. Satisfaction with appearance decreased significantly over time in females, $t(110) = 7.47$, $p < .001$, $d = 0.73$, and in males, $t(161) = 6.09$, $p < .001$, $d = 0.47$. Interestingly, a longitudinal change in social experiences and depressive symptoms varied across gender. Females reported the same level of social experiences at both age 10 and age 16, $t(94) = -0.09$, $p > .05$, while males reported more positive social experiences at age 16, $t(148) = -8.52$, $p < .001$, $d = -0.64$, than at age 10. Further, depressive symptoms significantly increased from childhood to adolescence in females, $t(105) = -2.24$, $p < .05$, while significantly decreasing over the same time period in males, $t(156) = 2.61$, $p < .05$. However, effect sizes for the change in depressive symptoms were small in both genders (Females: $d = -0.22$; Males: $d = 0.21$).

The Impact of Teasing on Satisfaction With Appearance

A regression analysis was run to test the potential impact of cleft visibility and the presence of an additional condition on satisfaction with appearance. The presence of an additional condition did not impact on satisfaction with appearance at age 10 or 16. There was no effect of cleft visibility on females at age 10, $F(2,121) = 0.94$, $p > .05$, while a non-visible cleft accounted for 4% of the variance in satisfaction with appearance in young males (ß = -.18; $F(2,183) = 3.40$, $p > .05$). At age 16, cleft visibility explained 15% of the variance in

satisfaction with appearance females, ß = -.39, F(2, 117) = 10.26, $p < .001$, and 18% of the variance in males, ß = -.43, F(2, 176) = 19.66, $p < .001$.

Analyses investigating the impact of teasing on appearance satisfaction were based on subgroups of participants who did or did not report teasing at different time points. Satisfaction with appearance was calculated for all subgroups and is presented in Figure 1. Differences between subgroups were calculated with ANOVA and showed that no significant differences were found in satisfaction with appearance between females reporting and those not reporting teasing before the age of 10, $F(1, 122) = 0.04$, $p > .05$, or at age 10, $F(1, 122) = 0.29$, $p > .05$. Females who reported teasing before the age of 16, however, were significantly less satisfied with appearance than those who did not report any teasing during adolescence, $F(1, 106) = 9.79$, $p < .01$; $\eta^2 = 0.09$. The same applied for females reporting teasing at age 16, $F(1, 116) = 5.16$, $p < .05$; $\eta^2 = 0.04$. Males reporting teasing also had lower satisfaction with appearance at most time points than those who reported no teasing, but these differences were only statistically significant for those reporting teasing before the age of 16, $F(1, 145) = 4.25$; $p < .05$; $\eta^2 = 0.03$, while being non-significant at age 10, $F(1, 183) = 1.77$; $p > .05$, and age 16, $F(1, 176) = 1.16$; $p > .05$. Males reporting teasing before the age of 10 were actually more satisfied with appearance than those who did not report experiences of teasing, $F(1, 183) = 5.57$; $p < .05$, $\eta^2 = 0.03$. However, effect sizes were small for differences found in the group of males, compared to medium to large effect sizes in the effect of teasing on appearance for females.

One-way ANOVAs were conducted to investigate differences in satisfaction with appearance across time points of teasing, and confirmed that there were no statistically significant differences in satisfaction with appearance for the children reporting teasing before and at age 10 (Females: $F(1, 23) = 0.01$; Males: $F(1, 49) = 1.39$; $p > .05$). Satisfaction with

appearance was significantly lower in males who reported teasing before the age of 16, $F(1, 88) = 11.25$, $p = .001$, $\eta^2 = 0.11$, and at age 16, $F(1, 43) = 9.38$, $p < .01$, $\eta^2 = 0.18$, than when teasing had been reported to happen before the age of 10, in both cases with large effect sizes. Satisfaction with appearance was significantly higher at age 10 in females reporting teasing before the age of 10 and those reporting teasing before the age of 16, $F(1, 67) = 5.79$, $p < .05$, $\eta^2 = 0.08$, or at age 16, $F(1, 29) = 14.84$, $p < .01$, $\eta^2 = 0.34$, again with large effect sizes. Similarly, satisfaction with appearance was significantly higher, with large effect sizes, for the group reporting teasing at age 10 and before the age of 16, $F(1, 72) = 8.84$, $p < .01$, $\eta^2 = 0.11$, or at age 16, $F(1, 34) = 19.61$, $p < .001$, $\eta^2 = 0.37$. Females reporting ongoing teasing at age 16 were less satisfied with appearance than those reporting teasing before the age of 16. However, this difference was not statistically significant, $F(1, 78) = 3.15$, $p = .08$.

The Impact of Teasing on Depressive Symptoms

The regression analyses showed no impact of cleft visibility on depressive symptoms at age 10 nor 16, except in the adolescent sample of males, where a visible cleft was associated with less depressive symptoms ($R^2 = .03$, ß = -.17, $p < .05$; $F(2, 192) = 2.72$, $p > .05$). The presence of an additional condition explained 9% of the variance in depression in young females at age 10, ß = .27, $F(2,107) = 5.50$, $p < .01$, and 5% of the variance in young males (ß = .23; $F(2,164) = 4.72$, $p < .01$). At age 16, the presence of an additional condition had become non-significant in females, $F(2, 126) = 0.16$, $p > .05$, and in males $F(2, 192) = 2.72$, $p > .05$.

Analyses investigating the impact of teasing on emotional distress were based on subgroups of participants who did or did not report teasing at different time points. Levels of depressive symptoms were calculated through ANOVA for all subgroups who reported experiences of teasing at some time point, using the standardized scores for both measures

(Age 10: PIC; Age 16: HSCL-7), and are presented in Figure 2. There were no significant differences in levels of depressive symptoms between females reporting teasing before the age of 10, $F(1, 123) = 2.82$, $p > .05$, or at age 10, $F(1, 123) = 2.77$, $p > .05$. Females who reported teasing before the age of 16, $F(1, 108) = 10.69$, $p < .01$; $\eta^2 = 0.09$, or still as ongoing at age 16, $F(1, 118) = 12.53$, $p = .001$; $\eta^2 = 0.10$, had significantly higher levels of depressive symptoms than those who did not report teasing. Differences between those reporting teasing and those who did not were also found in the group of males. Males reporting teasing before the age of 16 had significantly higher levels of depressive symptoms, $F(1, 153) = 6.59$, $p < .05$, effect size being small to moderate ($\eta^2 = 0.04$). The difference in levels of depressive symptoms was stronger in males who reported teasing at age 16, $F(1, 184) = 8.96$, $p < .01$; $\eta^2 = 0.05$. There were no differences in levels of depressive symptoms between those reporting teasing before the age of 10, $F(1, 187) = 0.11$, $p > .05$, at age 10, $F(1, 187) = 0.59$, $p > .05$, and those who did not report teasing.

One-way ANOVAs were calculated in order to investigate the effect of teasing on levels of depressive symptoms across the different time points of reported teasing. Calculations revealed no differences in levels of depressive symptoms whether teasing was reported to happen before the age of 10, or was still ongoing at age 10, in females, $F(1, 20) = 3.77$, $p = .067$, as in males, $F(1, 43) = 0.33$, $p > .05$. None of the differences in levels of depressive symptoms in males reporting teasing at different time points were statistically significant (Before 10 vs <16: $F(1, 89) = 0.24$, $p > .05$; Before 10 vs Age 16: $F(1, 39) = 1.06$, $p > .05$; Age 10 vs <16: $F(1, 90) = 3.47$, $p = .066$; Age 10 vs Age 16: $F(1, 40) = 0.02$, $p > .05$; Ages <16 vs Age 16: $F(1, 86) = 3.52$, $p = .064$). As can be seen from Figure 2, levels of depressive symptoms increased over time in females who reported teasing. Females who reported teasing before the age of 16 had more depressive symptoms than those reporting teasing before the age of 10 only, $F(1, 67) = 3.80$, $p = .055$, a difference that however was not

statistically significant. Females reporting ongoing teasing at age 16 had significantly more depressive symptoms than if teasing had stopped before the age of 10, $F(1, 28) = 12.77$, $p = .001$, a finding that was strengthened by a powerful effect size ($\eta^2 = 0.31$). Similarly, females reporting ongoing teasing at age 16 had significantly higher levels of depressive symptoms than females teased only at age 10, $F(1, 32) = 7.52$, $p = .01$, again with a large effect size ($\eta^2 = 0.19$). The difference in levels of depressive symptoms between females reporting teasing before the age of 16, and those still experiencing teasing at age 16 was also statistically significant, $F(1, 79) = 5.64$, $p < .05$, $\eta^2 = 0.07$. There were no statistically significant differences in timing of teasing and depressive symptoms in the group of males.

Characteristics of the High Risk Group

As can be seen from Figure 1 and 2, and supported by statistical analyses, females who reported ongoing teasing at age 16 were significantly less satisfied with appearance and had higher levels of depressive symptoms than females who did not report teasing. This subgroup consisted of 16% ($n = 21$) of the all females within the sample. Within this group, 24% were "only" teased at age 16, while the remaining 76% ($n = 16$) reported teasing at all time points.

For clinical purposes, the mean score of the HSCL-7 was calculated for the high risk group, and revealed that females who reported teasing until before the age of 16 had clinically significant levels of depressive symptoms within the moderate range ($M = 1.79$, $SD = 0.68$), while females reporting ongoing teasing at age 16 had depressive symptoms within the severe range ($M = 2.10$, $SD = 0.69$). All mean scores for males, regardless of whether they reported teasing or not, were within the normal range.

There were 47.6% ($n = 10$) females with a visible cleft in the high risk group, compared to 51.1% ($n = 69$) in the total sample. Similarly, 71.4% ($n = 15$) of the females in

the high risk group had a cleft only (no associated additional condition), compared to 70.4% (n = 95) in the total sample. Hence, potential contributing factors such as cleft visibility or the presence of an additional condition could not explain psychological risk on any of the study variables.

Discussion

The current study is, to the authors' knowledge, the first longitudinal study to examine the development of (dis)satisfaction with appearance and emotional distress in relation to positive and negative social experiences reported by young people with a congenital visible and non-visible facial difference. The results provide evidence that teasing during the adolescent years can impact on self-perceptions of physical appearance and levels of depressive symptoms, most notably in females. No residual effects of teasing were found in those who "only" experienced teasing around the age of 10, while initial emotional adjustment and appearance evaluations did not explain the development of problems during adolescence. Gender differences were found to appear during adolescence. However, despite both genders reporting an increased frequency of teasing from childhood to adolescence, males also reported more positive social experiences over time.

Frequency of Self-reported Teasing

Within the current sample, approximately 80% of females and 70% of males had experienced teasing at least once by the age of 16. Previous studies investigating the prevalence of teasing among young people with CL/P have reported frequencies between 50% and 75% (Feragen & Borge, 2010; Hunt et al., 2006; Lorot-Marchand et al., 2015; Noor & Musa, 2007; Shaw et al., 2005; Turner et al., 1997). The frequency of teasing and bullying among the general population seem to report significantly lower figures, with frequencies ranging from 5-54% across countries (Brunstein Klomek et al., 2007; Craig et al., 2009; Eslea

et al., 2004), with prevalence numbers for Scandinavian samples being significantly lower than for most other European countries (Craig et al., 2009; Undheim & Sund, 2010). Within research on visible differences, a methodological problem is that samples often include a wide age range and hence do not investigate frequencies of teasing in accordance with specific developmental time points. Semb et al. (2005), on the other hand, did discuss teasing in young people with CL/P according to age, with the highest frequencies of teasing reported between the ages of 8-11 (59%) and 12-15 years (37%), and with slightly raised frequencies among females. While these frequencies are higher than the current study up to the age of 10 (Present study: 39%), the opposite is the case for those reporting teasing up to the age of 16 (Present study: 60.9%). In Lorot-Marchand et al. (2015), teasing was reported to start in early primary school, with a peak frequency in middle school, as in the present study. Discrepancies between studies are probably related to the methodology used, such as the choice of measures and the definition of teasing utilised, and thus it is difficult to conclude whether or not young people with CL/P experience comparable, higher or lower levels of appearance-related teasing than same-aged samples from the general population. The current study registered subjectively perceived teasing irrespective of frequency, hence including occasional teasing as well as more severe bullying in the same variable. This inclusive and subjective patient-centred approach will likely lead to higher figures of teasing than studies based on a more restrictive definition. Irrespective of the frequency of reported teasing in this specific sample, and as described in more detail below, an important specification was that factors other than cleft visibility explained the occurrence of teasing.

The Longitudinal Impact of Teasing

In previous research, both within the general population and among young people with a visible difference, the directionality of the relationship between teasing, satisfaction with appearance and emotional distress has been unclear, due to the cross-sectional or retrospective

nature of the data. The longitudinal approach utilised by the present study found that appearance dissatisfaction and emotional distress were similar and within the normal range for all subgroups at age 10 (also see Feragen & Stock, 2015), and were not indicative of appearance evaluations and emotional distress six years later. These findings suggest that emotional difficulties do not precede the starting point for teasing in most young people with a cleft; rather that it is the subjective experience of teasing which can prompt an increase in emotional symptoms and appearance dissatisfaction. The results of the present study therefore strongly indicate the need to identify those at risk due to self-perceived incidences of peer harassment.

The results of the present study also lend support to the suggestion that the timing of negative experiences is an important factor in adjustment (Rueger et al., 2011). Among the young people included in this sample, the most significant effect of teasing was found in those reporting teasing until and at the age of 16. Adolescence is considered a key time for appearance-related teasing to occur, and is an age at which subjective evaluations of appearance contribute significantly to overall self-perceptions and emotional wellbeing (Frisen & Anneheden, 2014; Lovegrove & Rumsey, 2005). Thus, the findings are in accordance with what is known from studies conducted within the general population, and point to clear associations between social experiences, appearance evaluations and emotional adjustment in adolescents (Feragen et al., 2015). In contrast, the present study did not replicate previous findings that emotional distress from teasing does not dissipate over time with the cessation of victimisation (Kochenderfer & Ladd, 1996). Rather than indicate residual effects, the results of the current study demonstrated that those who were not teased after the age of 10 reported few or no negative effects of teasing when measured six years later. This could indicate that repeated experiences of teasing are most harmful, particularly during the adolescent years. Unfortunately, the current study was not able to distinguish

between the timing of teasing and its duration. Nevertheless, the present findings highlight the need to intervene during the adolescent years, when peer relationships and appearance evaluations are taking on increasing importance.

Contributing Factors: Gender, Additional Conditions, and Cleft Visibility

Within the general population, the frequency of experienced teasing, satisfaction with appearance and emotional symptoms are known to vary according to gender (Brunstein Klomek et al., 2007; Craig et al., 2009; Eisenberg et al., 2006; Frisen & Anneheden, 2014; Smolak, 2004; Twenge & Nolen-Hoeksema, 2002). This was confirmed by the findings of the present study, where satisfaction with appearance and emotional distress was significantly affected by teasing in females, while the impact of teasing on males was characterised by few significant findings and low effect sizes. Furthermore, mean scores for all measures werel within the normal range for males. These results seem to be in line with a large American study (Brunstein Klomek et al., 2007) which found that only frequent victimisation increased the risk for depressive reactions in males, while teasing was associated with emotional symptoms in females irrespective of frequency. Unfortunately, the present study was not able to differentiate between those reporting frequent teasing and those reporting single and less severe episodes of teasing. Findings may therefore have demonstrated a more significant impact of teasing within subgroups of males had the frequency of teasing been examined in more depth. Future studies are needed in order to shed light on the longitudinal impact of the

quantity and frequency of experienced teasing, and their influence on psychological well-being in young people with and without a visible difference.

Additional conditions, such as a genetic syndrome, developmental delay, or learning difficulties are prevalent in children with CL/P and may affect psychological adjustment (Feragen et al., 2014). However, the presence of an additional condition was not significantly associated with levels of teasing, satisfaction with appearance or with depressive symptoms in the present study. These findings are in line with a recent CL/P study, where the effect of an additional condition was less prevailing on self-perceptions of appearance and emotional distress in an adolescent sample (Feragen et al., 2015), compared to younger children (Feragen & Stock, 2015). This difference could be explained by developmental changes, suggesting that the adolescents learn to cope with other diagnosed conditions over time, and hence adjust to challenges that otherwise may have affected psychological functioning.

Although young peoples' subjective evaluations of cleft visibility have been shown to strongly surpass the impact of more objective evaluations of visibility (Feragen et al., 2010; Moss, 2005; Ong et al., 2007), a measure of objective visibility, such as the type of cleft, is often included in studies examining the psychological impact of CL/P. Among cleft samples, a visible cleft is approximately twice as prevalent in males than in females, while a non-visible cleft is more equally distributed among females and males (Sivertsen et al., 2008). In the present study, males' reports of appearance dissatisfaction and emotional distress were lower than females' reports and were within, or better than, the normal range, in spite of the fact that 66% of the males had a visible cleft, thus suggesting no overall effect of cleft visibility. Additionally, regression analyses revealed that cleft visibility explained 15-18% of the variance in satisfaction with appearance at age 16, while reducing depressive symptoms in adolescent males. To explore the impact of visibility further, the females in the high risk

group for both appearance dissatisfaction and depressive symptoms were investigated. Again, no effects of visibility were found, strengthening the conclusion that the present study does not support cleft visibility as a major risk factor. Instead, the findings of the current study point to teasing as a key risk factor, regardless of the presence of a visible difference, as suggested by previous studies in the field of CL/P (Feragen & Borge, 2010; Hunt et al., 2006).

Protective Factors

Recent studies in CL/P have begun to investigate factors which may protect young people from the potential psychological impact of their condition. In the present study, both genders reported an increased frequency of teasing over time. However, males also reported more positive social experiences over time. Relationships with peers and perceptions of positive social experiences play an important role in the development of self-concepts and appearance satisfaction in the general population (Bellmore & Cillessen, 2006; Holsen et al., 2001; Keefe & Berndt, 1996), a relationship which has also been demonstrated in young people with a congenital visible difference (Feragen et al., 2010; Kapp-Simon et al., 2005; Slifer et al., 2006). Thus, positive social experiences may counteract the negative impact of teasing and act as a buffer against emotional distress. This could explain the reduced impact of teasing in young males on satisfaction with appearance and emotional distress of the present study, and should be investigated further.

Clinical Implications

The present study supports a developmental model whereby teasing and other negative social experiences in young people with a visible difference precede the development of negative self-perceptions, as has been demonstrated in the general literature (Bellmore & Cillessen, 2006). The results therefore suggest that in order to prevent appearance concerns and emotional distress, clinicians could include a strong focus on social experiences. School-

based prevention and intervention efforts should aim to reduce the incidence and impact of peer harassment and bullying in order to protect young people from the negative consequences of victimisation (Frances, 2003; Olweus, 1993, 2001). In parallel, school-based prevention and clinical interventions should be directed towards strengthening social skills and resilience in vulnerable children (Kapp-Simon et al., 2005). Studies have already demonstrated the potential of such interventions in young people within the general population (Lovegrove & Rumsey, 2005), as well as for young people with a visible difference (Maddern, Cadogan, & Emerson, 2006). Additional interventions, such as those aimed at promoting appearance diversity more generally (Halliwell & Diedrichs, 2014), as well as campaigns designed to raise awareness of conditions affecting appearance (https://www.changingfaces.org.uk) may also contribute to these aims.

Nevertheless, a meta-analysis of longitudinal studies on the relationship between teasing and emotional adjustment (Reijntjes et al., 2010), suggests a reciprocal and bidirectional relation between these variables. Therefore, clinicians should be aware that young people presenting with initial psychological problems, such as dissatisfaction with appearance or emotional difficulties, could possibly become the targets of teasing and bullying.

Strengths and Limitations

The majority of longitudinal studies within the general population to date have used time frames of 12 months or less. The recommendations of these studies have included the need to employ more extended age ranges and to explore changes appearing in both childhood and adolescence (Reijntjes et al., 2010). Reviews of the literature (Hunt et al., 2005; Rumsey & Stock, 2013) also confirm the need for more longitudinal studies within the research field of CL/P. Therefore, the main strength of the present study is its longitudinal dataset, based on

a sample of 340 young people with a cleft who had attended two routine psychological assessments over a period of six years. The longitudinal approach used in this study has added valuable insight into the directionality and nature of associations between important factors in this field of work. Further, the sample was based on seven consecutive birth cohorts, with a participation rate of 88.8% and low rates of attrition. Participants were drawn from a centralised treatment setting, suggesting the sample was highly representative of the population under study. This study has demonstrated that although large longitudinal samples are challenging and time-consuming to collate, they are necessary if we are to address some of the central unanswered research questions in the field of appearance and in the field of psychological adjustment to a visible difference.

Despite the importance of the present findings, results must also be considered in light of the study limitations. First, psychological assessments were only carried out at two time points, and the inclusion of one or more additional points of assessment would have provided more detailed information on the pattern of change over time. Second, reports of teasing 'before the age of 10' and 'before the age of 16' were collected retrospectively, potentially affecting reliability. The weakest "time point" was the variable related to teasing that was retrospectively reported to have happened before the age of 16. Most participants had not specified the timing of this teasing, and it was therefore difficult in most cases to confirm whether teasing reported 'before the age of 16' possibly overlapped with the reports collected at age 10. However, explorative analyses suggested that overlapping subgroups probably were small and hence are not expected to have impacted on the results. In addition, the strongest effect sizes were found for results based on teasing reported at age 16.

Another limitation was that a measurement of the level, intensity, or frequency? or reason for teasing was not included, limiting the interpretation of the present results. There is

also a need for more clarity and consensus on the conceptualisation of teasing and bullying, and in the choice of measurements of these constructs (Reijntjes et al., 2010; Rueger et al., 2011), to allow for better comparisons between studies. Third, despite the relative importance of subjective experiences in comparison to more objective or third party reports of adjustment (Moss, 2005; Moss, Lawson, & White, 2014; Ong et al., 2007; Rosser et al., 2010), previous studies have suggested that multiple informants are advised in order to capture a more comprehensive understanding (De Los Reyes & Kazdin, 2005). Differences between self- and parent reports have been found in cross-sectional studies (Berger & Dalton, 2009), while little is known about the possible discrepancies in relation to teasing. The inclusion of parent reports was beyond the scope of the current study, but could have added insight into the impact of teasing on appearance satisfaction and emotional distress. Finally, although the present study confirmed that teasing was likely to precede dissatisfaction with appearance and emotional distress, the possibility of other factors being associated with the variables over time and influencing the outcome variables cannot be ruled out. Previous research has pointed to attributions, personality characteristics and dispositional style, social competence, and objective and subjective evaluations of speech as important factors for the development of satisfaction with appearance and emotional distress (Frederickson, Chapman, & Hardin-Jones, 2006; Kvalem et al., 2006; Slifer et al., 2006; Stock, Feragen, & Rumsey, 2015), which were not measured in the present study. The interpretation of the present study also needs to take into account that measures of social anxiety and fear of negative evaluations were not included, factors that may contribute in explaining the relationship between negative social experiences and psychological adjustment (Berger & Dalton, 2009; Frisén et al., 2009). Other adverse life events, such as parental divorce or illness, were not registered in the present study. These events could have occurred between the two time points of measurement and/or could have impacted on the study variables. The lack of demographic information such as

socio-economic status is also a limitation. However, the potential impact of such demographic information on the results was considered to be low, given that SES and educational level are expected to have a reduced impact in Scandinavian samples than in many other Western societies (Heiervang, Goodman, & Goodman, 2008). Nevertheless, future research should aim to include more detailed and comprehensive demographic information.

Conclusions

The results of this study provide compelling evidence that experiences of teasing are salient to the development of young people's self-perceptions of satisfaction with appearance and emotional distress, whether a visible difference is present or not. The present study calls for clinicians and researchers within the field of congenital conditions to move from the paradigm of a visible difference as predicting social difficulties and emotional distress per se, and toward an understanding of the central factors impacting on the individual's self-perceptions, such as positive and negative social experiences and subjective appearance evaluations. An early identification of those at risk for distress because of experiences of teasing is therefore crucial for positive psychosocial adjustment. Clinicians and researchers need to identify those who feel that their congenital visible difference contributes to negative social interactions and offer appropriate support. Given the known impact of social experiences on psychological well-being, identifying positive as well as negative social experiences and understanding how they may strengthen subjective appearance evaluations and emotional adjustment should be a primary goal of future clinical interventions and research.

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Figure captions

Figure 1. Satisfaction with appearance measured at age 10 and 16 (CHASQ, range 0-10: Low to high satisfaction with appearance) in terms of reported teasing (YES) or no teasing (NO) for females and males.

Figure 2. Standardised *z*-scores for depressive symptoms measured at age 10 (PIC) and at age 16 (SCL-7), in terms of teasing (YES) or no teasing (NO) for females and males.

Table 1. Reported teasing at different time points (cross-sectional) and across gender.

	Total	**Females**	**Males**	
	% (n)	% (n)	% (n)	χ^2
Before age 10	39.0 (128)	36.9 (48)	40.4 (80)	0.40
Age 10	35.1 (115)	38.5 (50)	32.8 (65)	1.09
Before age 16	60.9 (162)	71.2 (79)	53.5 (83)	8.44**
Age 16	13.0 (40)	17.4 (21)	10.2 (19)	3.36*
Never	24.6 (83)	18.7 (25)	28.4 (58)	1.01
One/two time points	67.2 (227)	69.4 (93)	65.7 (134)	3.03
All time points	8.3 (28)	11.9 (16)	5.9 (12)	6.56*

Note: * $p < .05$; ** $p < .01$.

Table 2. Longitudinal changes for satisfaction with appearance, social experiences, and depressive symptoms.

			Age 10	**Age 16**	***t***	***ES***
Females	Appearance	CHASQ	8.3 (1.44)	6.7 (2.20)	7.47***	0.78
	Social experiences	CEQ	2.6 (0.34)	2.7 (0.58)	-0.09	n/a
	Depressive symptoms	PIC/SCL-7	0.02 (1.05)	0.31 (1.17)	-2.24*	0.21
Males	Appearance	CHASQ	8.4 (1.40)	7.5 (1.63)	6.09***	0.47
	Social experiences	CEQ	2.7 (0.36)	3.0 (0.46)	-8.52***	-0.64
	Depressive symptoms	PIC/SCL-7	-0.04 (0.94)	-0.26 (0.67)	2.61*	0.21

Notes: * $p < .05$; *** $p < .001$.

ES = Cohen's *d* (corrected for dependence between means, using Morris and DeShon's (2002) equation 8).

CHASQ = Cleft Hearing, Appearance and Speech Questionnaire, range 0-10 (Low to high levels of satisfaction); CEQ = Child Experience Questionnaire, range 0-4 (Low to high levels of social experiences); PIC = Personality Inventory for Children, Depression scale, converted to z-scores; SCL-7 = Hopkin's Symptom Checklist, converted to z-scores.

FIGURE 1

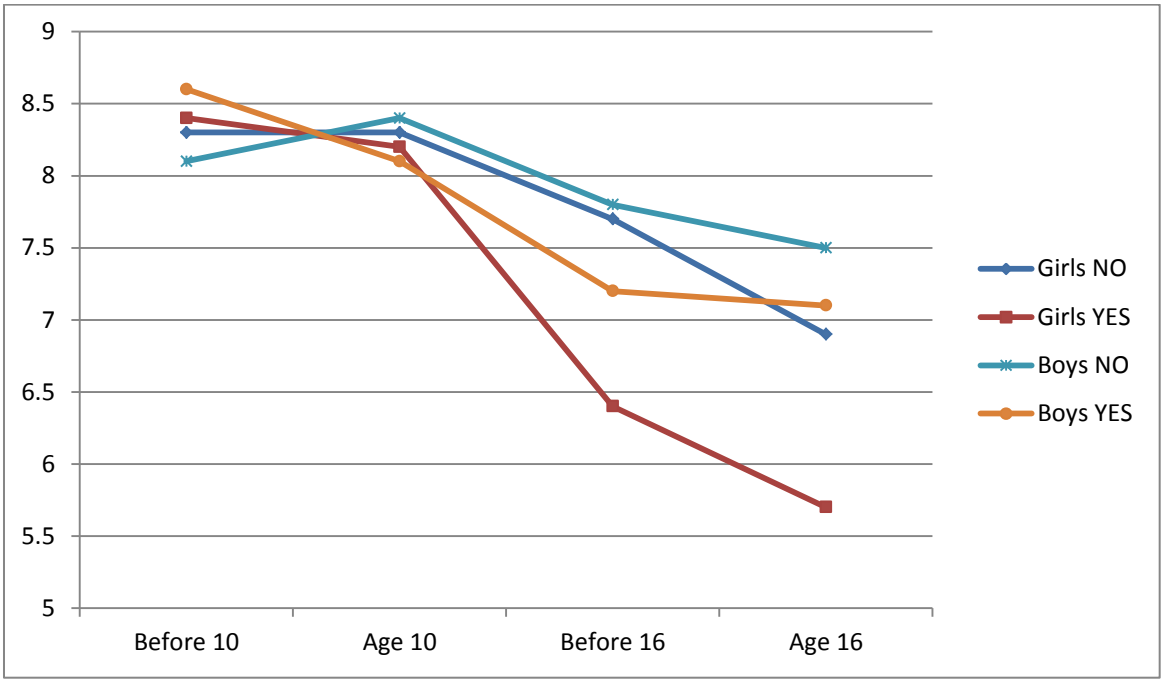
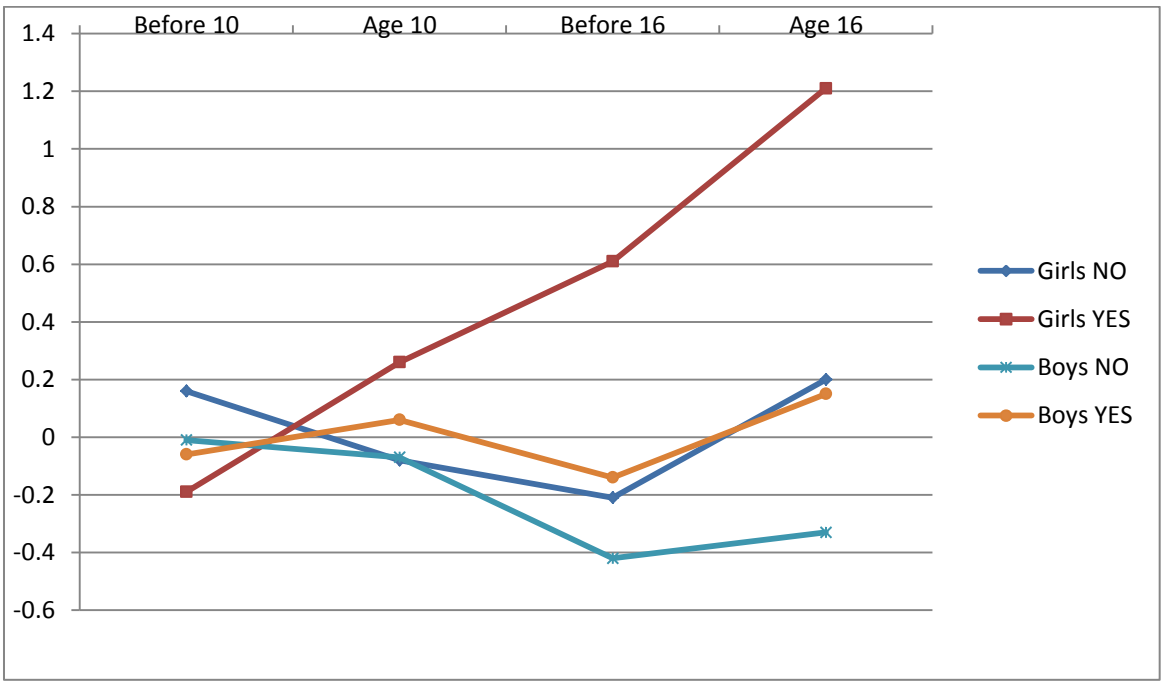

9
8.5
8
7.5
7
6.5
6
5.5
5
Before 10
Age 10
Before 16
Age 16
Girls NO
Girls YES
Boys NO
Boys YES

FIGURE 2


Before 10
Age 10
Before 16
Age 16
1.4
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
Girls NO
Girls YES
Boys NO
Boys YES