

Personal constructs of adolescents with selective mutism

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In memory of Fay Fransella.

Abstract

Due to the nature of the condition, research into selective mutism has tended towards quantitative analyses or individual case studies. This study aimed to explore the personal experiences of adolescents with selective mutism whilst considering the threats to validity that exist in previous qualitative studies. In a series of case studies (n=6), methods of eliciting data derived from Personal Construct Psychology were employed. Experience Cycle Methodology was used to explore the process of construing, whilst the Repertory Grid Technique enabled an exploration of the structure of construing. It was hoped that these methods might identify obstacles to change and inform appropriate interventions. Results suggested that mutism may be 'chosen' because it may enable greater anticipation of their interpersonal relationships than does speaking. Furthermore, there were suggestions that selective mutism may be a way of avoiding possible invalidation. Further research into sociality and systemic discourse was proposed in order to understand this condition further.

Fatal Silence

When the bell rings, my anxiety still sings,
Even outside on the court, with all the fun things.
Knowing I can't talk, I fill with sorrow.
But I always say "I'll try again tomorrow".

My heart's pounding on every single beat,
Knowing that without speech, my life is incomplete.
They don't know me at all; they think I'm weird.
It's really hard to talk when you know that you're feared.

Everyone talked to me - I was just mute.
Now, No one talks to me - I always feel acute.
I wish I could start over from the dash.
My social life has all just crashed. I had no flash.

What's wrong with me? Is it because I'm shy?
No, I just shut up in fear that I'll die...
...Alone...cold...with my heart stopping itself...
...But I won't let it happen... I'll do it myself.

(poem posted on social networking site)

1. Introduction

Selective mutism is a condition whereby children, adolescents and adults experience difficulties with speaking in select environments, despite having age-appropriate vocabulary skills and academic abilities (Nowakowski, Cunningham, McHolm, Evans, Edison, St Pierre, Boyle & Schmidt, 2009). Many theories have attempted to conceptualise selective mutism but due to the heterogeneous nature of the condition, the etiology remains unclear. However, there are some common features and, more recently, a relationship between selective mutism and anxiety has been recognised (Anstendig, 1999).

Due to the nature of the condition, it is difficult to gain the perspective of the individual. Popular methods of research in this area are the use of case studies and parent reports. Omdal (2007) and Omdal and Galloway (2007) have attempted to

explore the experience of selective mutism from the perspective of the individuals themselves using projective tests and retrospective accounts but these methods have limitations. For example, the poor reliability and validity of projective tests has been well documented (Bornstein, 1999; Hiller, Rosenthal, Bornstein, Berry, & Brunell-Neulieb, 1999) as well as the influence of the administrator on participant response (Burley and Handler, 1997). Retrospective accounts have been criticised for the possibility of memory distortions and reinterpretations (Hassan, 2006). Therefore, a method for eliciting current perspectives using objective methods would be preferable. The internet provides a possible method of communication that may be useful for gathering information from people with this type of condition. This author proposes using methods from Personal Construct Psychology (Kelly, 1955/1991) to gain an understanding of the content, structure and process of construing from the perspective of the adolescent with selective mutism.

This chapter will begin by outlining the historical understanding of the condition, followed by identifying the latest medical classification according to the DSM-IV-TR (American Psychiatric Association, 2000). An exploration of the etiology of selective mutism will be carried out from different perspectives including psychodynamic theories, the influence of the family, behavioural theories, and developmental/genetic conceptualisations. There then follows an explanation of the Personal Construct Psychology approach and a rationale for the current research, leading to the research questions.

1.1. Literature Review

1.1.1. Historical Conceptualisations of Selective Mutism

Historically, the terms that have accompanied the condition have reflected its conceptualisation through the ages. The German physician, Kussmaul, first described a condition called 'aphasia voluntaria' in 1877 (cited in Viana, Beidel and Rabian, 2009). This was later changed to 'elective mutism' by Moritz Tramer in 1934, which reflected the *zeitgeist* of selective mutism as volitional (cited in Viana, Beidel and Rabian, 2009). Accordingly, the literature highlighted oppositionality as a key variable in selective mutism (e.g. Browne, Wilson and Laybourne, 1963; Hayden, 1980; Krolian, 1988). In addition, Halpern, Hammond and Cohen (1971) described

selectively mute children as “characteristically immature”, “controlling” and “oppositional”.

More recent research identified the relationship between selective mutism and anxiety (Anstendig, 1999) and challenged the DSM-IV (American Psychiatric Association, 1994) classification of “Other Disorders of Infancy, Childhood and Adolescence” (APA, 1994; Standart and Le Couteur, 2003). The DSM-IV (American Psychiatric Association, 1994) once again changed the name of this condition from ‘elective mutism’ to ‘selective mutism’ to reflect the evolving ideas around its nature. The term changed in response to the acknowledgement of the selectivity of speech rather than the previous emphasis on oppositional behaviour.

Current thinking is focused on mutism as a symptom of anxiety. However, Omdal and Galloway’s (2008) research explored a hypothesis of selective mutism as a specific phobia of speech. They argue that there was little evidence of social anxiety in their sample, but some “determined and stubborn” behaviour was evident. Nonetheless, Carbone, Schmidt, Cunningham, McHolm, Edison, St Pierre and Boyle (2010) found evidence that supported the conceptualisation of selective mutism as an anxiety disorder but with specific deficits in social functioning and social anxiety.

1.1.2. DSM-IV-TR (2000) Criteria

Selective mutism is still a poorly understood phenomenon despite a growing research evidence base. Current conceptualisations of selective mutism perceive it to be an anxiety disorder and this is reflected in the medical model. Diagnostic criteria for selective mutism according to DSM-IV-TR (APA, 2000) suggest that difficulties with speaking need to have been present for at least one month and not include the first month of school. Furthermore, there need to be (i) consistent selectivity in speaking in social situations, despite speaking in other situations; (ii) a normal or near normal level of language comprehension; (iii) a level of competence in language expression that would be sufficient for social communication; and, (iv) disturbance with educational or occupational achievement, or with social communication. The DSM-IV-TR (APA, 2000) also specifies that speaking should not be explained by (i) a lack of knowledge of or comfort with the spoken language; (ii) another communication disorder, such as stuttering; and (iii) a concurrent

diagnosis of pervasive development disorder, schizophrenia, or other psychotic disorder.

1.1.3. Age of Onset

In the main, the literature considers selective mutism to be a “childhood” disorder (Wong, 2010; Vecchio and Kearney, 2005; Vecchio and Kearney, 2009; Viana, Beidel and Rabian, 2009). Omdal (2007) reports that mean onset of selective mutism “behaviour” begins at age 5 or younger. Age of onset estimates range from 2.7 years to 4.1 years (Cunningham, McHolm, Boyle and Patel, 2004; Garcia, Freeman, Francis, Miller and Leonard, 2004). Sharp, Sherman and Gross (2007) describe the difficulties with recognising and identifying there is a problem, resulting in a considerable time lag between age of onset and diagnosis. They state that selective mutism is not typically recognised until a child enters school as they have usually been conversing with family members at home. Moreover, there may be a further time lag in appropriate referral to services. Viana, Beidel and Rabian (2009) highlight the important assessment, treatment and service delivery implications to counter the substantial delay between onset of speech restriction and referral to services. They recognise the possible entrenchment that may occur during this delay in onset, recognition and diagnosis.

There also appears to be a second occasion in a child’s life where they appear vulnerable to the onset of selective mutism. This appears to be during the time of transition to secondary school (High School) at age 11 (in England). However, this author is unaware of any research supporting this observation. Fong and Garralda (2005) highlighted that the age of onset for social anxiety disorder is frequently between 11 and 15 years and that these are more common among girls. It may be that the later onset selective mutism is a form of social anxiety disorder, which may be the same or different from the earlier onset form. Clearly, further research in this area is warranted.

1.1.4. Prevalence & Culture

Prevalence rates are variable although are usually less than 2%, indicating that selective mutism is a rare disorder. Research by Kumpulainen (2002) found that

selective mutism is slightly more prevalent in girls than boys. Early prevalence rates identified less than 1% of school-age children with selective mutism (Brown and Lloyd, 1975; Kolvin and Fundudis, 1981). Two more recent studies found around 2% of pupils fulfil diagnostic criteria in children from Finland and Sweden (Kumpulainen, Rasanen, Raaska and Samppi, 1998; Kopp and Gillberg, 1997). Later still, Bergman, Piacentini and McCracken (2002) and Chavira, Stein, Bailey and Stein (2004) found prevalence rates of 0.71% and 0.5% respectively in children in the USA. The discrepancy between these two rates could be accounted for by the fact that Bergman *et al*'s study researched prevalence in schools whereas Chavira *et al*'s research was estimated from clinical samples. Standart and Le Couteur (2003) postulate that prevalence rates in schools may be higher than in clinics as, although a child may show signs of selective mutism, they may not be referred to services. In their review, Sharp, Sherman and Gross (2007) note that these children may not be seen as a problem in the school setting and hence not referred to mental health services at the same rate as those with externalising disorders. They propose, therefore, that community studies offer a more comprehensive picture of prevalence rates.

Cross-culturally, examples of mutism may be related to cultural context. For example, in Native Americans, a phenomenon called *Wacinko* (meaning 'to pout') involves feelings of anger, withdrawal and mutism (Lewis, 1975; 1990). *Prima facie*, these symptoms appear to mimic selective mutism as described in the literature. However, *Wacinko* may also include "suicide in reaction to disappointment and interpersonal problems". There are also age and gender differences in relation to *Wacinko* in that it is an action that adult males do *to* their spouse or partner. The intention behind the mutism is to communicate that there is something wrong in the relationship. The partner has to guess what the problem is. Therefore, *Wacinko* appears to be a motivated act of non-verbal communication as a method of meeting a person's needs in a relationship. Clearly, in this context, identifying the meaning of the mutism is important.

The DSM-IV-TR (APA, 2000) criteria recognise the difficulties of acculturation with regard to selective mutism wherein immigrant children who are not comfortable with the language will not be seen to be appropriate for a diagnosis. However, prevalence rates show diagnosis among immigrant children is three times higher due to possible clinical misunderstanding of the process of learning a second language (Toppelberg, Tabors, Coggins, Lum and Burger, 2005).

1.1.5. Prognosis

Steinhausen, Wachter, Laimbock and Metzke (2006) studied long-term outcome in young adulthood of a clinical sample of children with selective mutism. Outcome was operationalised as a reduction of symptoms according to the DSM-IV-TR (APA, 2000) criteria. They found a “favourable outcome” with regard to symptomatic improvement in 80% of their sample. They identified two major types of course: namely, one type of selective mutism where the symptoms do not change but ‘disappear suddenly’ in adolescence or young adulthood; the other course type identified by Steinhausen *et al* (2006) was that selective mutism symptoms gradually declined until finally given up. However, 18% showed only a ‘slight improvement’ over time. Furthermore, the entire selective mutism sample consisted of 33 participants, which means that 27 participants showed marked or total improvement but six participants only improved slightly. Moreover, at follow-up, 16 participants showed a phobic or anxiety disorder. This means that almost half of the sample continued to experience difficulties at long-term follow-up, even if they had resumed talking in various contexts. Indeed, Standart and Le Couteur (2003) comment that the therapist’s role should not end after speech is achieved. The study did not report on the longer-term impact on the family of raising a child with selective mutism, or expand on the impact of the residual difficulties reported in the study. More worryingly, this type of research can perpetuate the idea that children will “grow out of” the mutism but it is important to bear in mind that the sample was a group of children who were within mental health services.

Sharkey and McNichols (2008) reported that prognosis is poorer for children who are selectively mute into adolescence. Remschmidt, Poller, Herpertz-Dahlman, Hennighausen and Gutenbrunner (2001) found difficulties with self-confidence, independence, achievement and social communication skills in 60% of their sample of young adults who had been diagnosed with selective mutism as children. Garcia *et al* (2004) recognise that selective mutism can be missed in adults as they are more able to control their environment and avoid situations where they may be required to speak.

1.2. Etiology

Sharp, Sherman and Gross (2007) recognise the confusion that may occur due to the various conflicting etiological theories. However this has been considered by Viana, Beidel and Rabian (2009) who propose a developmental psychopathological perspective for understanding the etiology of selective mutism. They report that pathology is a result of the complex intertwining of individual and environmental factors. Cohan, Price and Stein (2006) recognise the interaction of genetics, temperament, developmental milestones and social factors. Accordingly, this section will look at psychodynamic theories, family influences, behavioural approaches, comorbid factors and neuropsychological factors.

1.2.1. Psychodynamic Theories

It is now widely accepted that psychodynamic theories do not provide a satisfactory etiological explanation for selective mutism because of the lack of evidence to support the ideas. The psychodynamic approach views selective mutism as a result of unresolved internal psychic conflict developed due to unmet needs at an early development stage (Krysanski, 2003). The oral conflict is illustrated in the interdependency between child and parent, the anal conflict expressed by “stubborn”, withholding of speech and the phallic conflict over sexual excitement and mastery Weissman (1982, cited in Krolian, 1988). Krolian (1988) notices the ambivalent attachment and complex relationship between mother and child. She suggests a closer examination of the early parent/child interaction, in particular, the use of reciprocal language. In a similar vein, a more recent study explored the role of attachment in selective mutism (Demogeot, Lighezzolo-Alnot and Claudon, 2009). Their case study showed signs of separation anxiety.

1.2.2. Family

The link between family systems and selective mutism is grounded in the idea that family dynamics may be key to the symptom that is showing itself (i.e. mutism). However, family histories may also indicate a biological etiology. This section will take a brief look at the research concerning both hypotheses.

The literature regarding selective mutism and family-related factors is mixed, supporting both environmental and intrinsic factors. Historically, the research highlighted the onset of symptoms as related to the increasing autonomy from the family that is expected as the child develops. Browne *et al* (1963) postulated that selective mutism was related to separation and abandonment. Frequent negative references were made to the mother/child relationship as mutually dependent or symbiotic (Halpern *et al*, 1971; Mora, Devault and Schapler, 1962; von Misch, 1952, cited in Kopp and Gillberg, 1997). Dow, Sonies, Scheib, Moss and Leonard (1995) suggest that a dependent relationship is formed between mother and child as the mother avoids marital discord. As recently as 1981, Kolvin and Fundudis reported examples of maternal depression and marital discord in families of individuals with selective mutism. In another study, Elizur and Perednik (2003) found that marital discord tended to be a risk factor for selective mutism in their sample of immigrant children. Halpern *et al* (1971) referred to the “isolated” nature of the selectively mute’s family.

Gar and Hudson (2008) explored the interactions between mothers and children with anxiety disorders. Their sample consisted of 32 dyads in which neither mother nor child were anxious, 28 dyads in which children were anxious and mothers were not (with half of these dyads recruited from clinics and half non-clinical), 37 dyads in which both mothers and children were anxious (with a larger non-clinical sample than clinical) and 38 dyads in which the mothers were anxious and the children were not. However, only one child in their sample had selective mutism. Nonetheless, they found that, regardless of age, mothers of anxious children were more over-involved, over-protective and critical than mothers of non-anxious children. Furthermore, Edison, Evans, McHolm, Cunningham, Nowakowski, Boyle and Schmidt (2011) found that compared to parents of anxious children, parents of selectively mute children were more ‘controlling’. They measured control by parental regulation of the children’s activities, autocratic parental decision-making, overprotection or instructing the child how to think or feel.

Kristensen (2002) reported more shyness and social anxiety found in parents of selectively mute children in comparison to controls. Kumpulainen (2002) found that relatives of people with selective mutism experience more anxiety. In particular, Kristensen and Torgersen (2001) found a history of shyness and social anxiety in mothers in their sample of immigrants, as well as more features of schizoid and avoidant personality. They also found that these factors were less present in the

parents of children who exhibited selective mutism with an accompanying communication disorder, suggesting that familial anxiety may play less of a part in these cases. Chavira, Shipon-Blum, Hitchcock, Cohan and Stein (2007) found higher rates of social phobia in the parents in their sample compared to controls. More specific to selective mutism, Black and Uhde (1995) found 37% of first-degree relatives have a history of selective mutism.

The feedback from parents of children with selective mutism is that managing the child's behaviour can be difficult and anxiety-provoking. Everyday activities are a constant source of worry for the parent, e.g., concerns about whether the child will be able to ask to use the bathroom whilst at school. Rubin and Burgess (2002, cited in Edison *et al*, 2011) suggest that social fearfulness can provoke parental concern which, in turn, can increase anxiety in parents of children with selective mutism. It can be difficult, therefore, to unpick the cause and effect of these systemic observations in families with a selective mutism presence.

An important factor appears to be the difference in behaviour seen in these children when at home in comparison to other environments. Cunningham *et al* (2004) described how children with selective mutism engage in oppositional behaviour at home but are inhibited outside the home. Yeganeh, Beidel and Turner (2006) found more incidents of oppositional defiant disorder in children with selective mutism in their sample. However, they also found that parenting styles did not appear to be significant in the origin or maintenance of selective mutism compared to parents of children with social phobia or parents of non-anxious peers.

1.2.3. Behavioural Theories

By far the largest evidence base for the application of interventions has been concerned with using a behavioural approach, acknowledging the anxious aspect of the disorder. Selective mutism is viewed as a learned response which is reinforced (Leonard and Topol, 1993). In her research, Omdal (2007) explored the context of selective mutism behaviour and found that children at school who were not encouraged to speak had not overcome their mutism at one year follow-up. She postulated that the child develops a social identity of being selectively mute and their behaviour is reinforced due to being unchallenged.

Behavioural interventions have included systematic desensitisation (Reed and Mees, 1963) and operant conditioning (Porjes, 1992). Cognitive Behaviour Therapy (CBT) interventions tend to contain skill and exposure components, including relaxation, problem solving and graded hierarchies. Carbone, Schmidt, Cunningham, McHolm, Edison, St Pierre and Boyle (2010) found support for the conceptualisation of selective mutism as an anxiety disorder but also found deficits in social functioning that implicated the need for social skills training in an intervention. Reuter, Davis, Moree and Matson (2011) used CBT with an 8 year old boy with selective mutism that included psychoeducation, cognitive restructuring, social skills, exposure using graded hierarchies and relapse prevention. The child no longer met criteria for selective mutism when discharged after 21 sessions and this was maintained at six month follow-up. Grover, Hughes, Bergman and Kingery (2006) proposed modifications to standard CBT treatment that included imaginal exposure, and involvement of parents and school personnel. Furthermore, they proposed recommendations for the treatment of comorbid symptoms of depression and attention deficit hyperactivity disorder. Fung, Manassis, Kenny and Fiskerbaum (2002) also used CBT for managing the anxious aspect of the disorder. Comparisons of pre and post treatment scores found improvements in anxiety and selective mutism symptoms across a range of settings.

Cohan, Chavira and Stein (2006) reviewed the literature from 1990-2005 exploring the outcome of psychosocial interventions. In their review, they found support for the use of CBT treatments when compared to a single family systems approach, five psychodynamic approaches and six multi-modal approaches to selective mutism. They also suggested that behavioural approaches, such as systematic desensitisation, appear to work well with younger children but recommend alternative approaches for older children who may be more receptive to social skills training or cognitive restructuring. Blum, Kell, Starr, Lender, Bradley-Klug, Osbourne, et al, (1998) offer a note of caution with regard to behavioural approaches to treatment. There has been some success with the use of videoing or audiotaping the child and then editing the tape to show them in settings where they do not usually speak. However, for some children, listening to their voice via audiotapes increased their anxiety, making it an unsuitable method of intervening. It seems that different methods may be appropriate for different segments of the selective mutism population. There is clearly a need for further research in this area, but the nature of the condition makes engaging people with selective mutism difficult, hence the lack

of randomised controlled trials and use of control groups. It seems that researchers and clinicians in this area continue to face the challenge of finding ethically appropriate means of identifying what works for whom.

1.2.4. Comorbidities

People with selective mutism are a heterogeneous group who appear to have a number of comorbid conditions. Yeganeh, Beidel, Turner, Pina and Silverman (2003) compared children with selective mutism and social phobia with children with social phobia alone and found no difference in self-report measures of fear but greater scores on the Child Behaviour Checklist Delinquency subscale. Similarly, as previously mentioned, Yeganeh, Beidel and Turner (2006) found comorbid oppositionality in their sample of children with selective mutism compared to children with social phobia. In contrast, Black and Uhde (1992, 1995) emphasised the association between selective mutism and anxiety. They specifically highlighted the link between selective mutism and social anxiety and reported that oppositionality was diagnosed in only 10% of their sample. They found only minimal evidence of trauma-related selective mutism. Manassis, Fung, Tannock, Sloman, Fiksenbaum and McInnes (2003) compared 14 selectively mute and nine socially phobic children and found them to be similar with regard to anxiety levels and academic ability but the selectively mute children showed some language impairments relative to the socially phobic children.

According to DSM-IV-TR (2000), Pervasive Developmental Disorder (PDD) should not be present for a selective mutism diagnosis. However, Pervasive Developmental Disorders, including autism (Kanner, 1943) entail social, communication and behavioural problems. As such, Wolff (1995) found many similarities between selective mutism and Asperger's Syndrome. Children on the autistic spectrum struggle to solve social and interpersonal difficulties. Many also begin to develop language skills but then lose them in the second year. However, there are some differences between PDD and selective mutism in that PDD tends to be characterised by repetitive behaviours, echolalia and hand flapping, which are not present in selective mutism (Bishop, 2002). Furthermore, PDD is present across various situations; this is obviously not the case in selective mutism. Davis, Moree, Dempsey, Reuther, Fodstad, Hess, Jenkins and Matson (2010) found an interesting moderating effect between anxiety and autism. Their study explored whether

communication deficits affected children with autism compared to children with PDD and children who were developing typically. They found that in children with autism, levels of anxiety decreased as communication decreased. However, for children with PDD, levels of anxiety increased as communication decreased. Blood and Blood (2007) reported a similar finding for stuttering children in that anxiety increased with language difficulties.

Hagerman, Hills, Scharfenaker and Lewis (1999) reported on a 12-year-old girl with selective mutism and Fragile X Syndrome. They highlight the relationship between the gene mutation associated with Fragile X and cognitive difficulties including executive functioning deficits, mathematical problems and language difficulties. Moreover, they recommended further exploration of this association between Fragile X and selective mutism.

1.2.5. Neurodevelopment

Neurodevelopmental delay can be indicated by language, motor problems, physical deformities and socioemotional milestones (Viana, Beidel and Rabian, 2009).

Kristensen (2001) reported that 68% of their selectively mute sample met criteria for developmental delay. Kristensen (2002) highlighted the link between communication problems and poor motor coordination skills in children without selective mutism.

The link between selective mutism and motor development was explored in a sample of 54 children from Norway, recruited through clinics and school psychology services. Nearly half of the children with selective mutism were found to have delayed motor skills compared to matched controls. Accordingly, Kristensen (2002) argues that neurobiological factors may play a role in selective mutism. This study had an impressively large sample, but the findings cannot be generalised to non-clinical samples.

Oerbeck and Kristensen (2008) explored attention deficits in children with selective mutism, but this deficit disappeared when motor function and IQ were controlled for.

Standart and Le Couteur (2003) note that IQ is under-researched in this group.

Nonetheless, Kolvin and Fundudis (1981) found the average IQ of children with selective mutism to be lower than that of control children. Other neuropsychological impairments have also been found, including language impairment (McInnes, Fung, Manassis, Fiksenbaum and Tannock, 2004; Kristensen, 2002; Snowling, Bishop,

Stothard, Chipchase and Kaplan, 2006). In their study of two sets of dizygotic twins with selective mutism, Gray, Jordan, Zeigler and Livingstone (2002) found expressive language deficits in both sets, suggesting that expressive language may play a part in the condition.

Nowakowski, Cunningham, McHolm, Evans, Edison, St Pierre, Boyle and Schmidt (2009) looked at receptive language and academic abilities in children with selective mutism. They found that although children with selective mutism did not perform as well as those with mixed anxiety or the control group, their measures still fell within the average range for their age. Similarly, Manassis *et al* (2007) found children with selective mutism, performed less well than anxious children or controls on measures of receptive vocabulary, yet their scores were still at an average level for their age. Nowakowski *et al* (2009) also found children with selective mutism fell behind their peers with regard to mathematic level. They postulate that this might be due to the child's lack of verbal participation in the classroom.

Akinetic mutism is a form of mutism caused by frontal lobe damage wherein a person is unable to speak or move. The frontal lobes are associated with executive functioning, which enables higher mental functioning associated with planning, switching between tasks, problem solving, attention, working memory, suppression of unacceptable social responses, and the ability to recognise future consequences from current behaviour. Impaired executive functioning is linked to poor Theory of Mind (Baron-Cohen, 2001). Theory of Mind deficits can mean problems in understanding language, metaphor, jokes, intentions, pragmatics such as turn-taking and, in turn, cause a degree of social impairment (Baron-Cohen, 2001; Frith, Happe and Siddons, 1994). Subsequently, these deficits may provoke anxiety in unfamiliar situations and with unfamiliar people where making inferences about another person's language and intentions may be extremely difficult. It may be that the best way of avoiding these difficult negotiations is by not participating in language at all. Unsurprisingly, Hughes, Ensor and Marks (2011) found that performance on false-belief tasks at age 3 was predictive of the quality of friendship interactions at age 6, indicating that poor Theory of Mind leads to social mishaps and possible withdrawal.

1.3. Qualitative Approaches to Selective Mutism

As previously mentioned, due to the nature of selective mutism, there are difficulties with engaging this client group. Therefore, there is a lack of research into the personal experiences of the individual with selective mutism and, as such, understanding of the personal meaning of selective mutism could be beneficial for informing interventions.

A qualitative research study in this area has recently been undertaken by Omdal and Galloway (2007). They attempted to gain an understanding of selective mutism from the first-person perspective through the medium of projective tests. They hypothesised that selective mutism represents a way of “avoiding stressful relationships or situations”. To this end, they queried the ability of the person with selective mutism to answer direct questions that are of a personal nature. They further postulate that even eliciting answers via a medium such as a computer may be enough to trigger the selective mutism response, hence, their rationale for using indirect projective tests. The Raven’s Controlled Projection for Children (Raven, 1951) was utilised as they believed the tool to be a “sensitive and non-threatening” method for eliciting the child’s thoughts and feelings. Omdal and Galloway (2007) propose that this test is an appropriate method in order to identify the perceptions of children with selective mutism in the following areas:

- “their relations with other children, friendships, etc;
- their relations with parents and understanding of parents’ own relationships;
- how they react to other adults, such as visitors at home and to people in authority such as teachers;
- their own private fears and fantasies” (Omdal and Galloway, 2007; p206).

The validity of projective tests has been argued in the literature (e.g. Bornstein, 1999; Hiller, Rosenthal, Bornstein, Berry, and Brunell-Neuleib, 1999; Messick, 1995) as well as the difficulties with interpretation (Burley and Handler, 1997). However, as has been highlighted by Omdal and Galloway (2007), traditional verbal methods of eliciting information from another person are problematic as an effective method for the person with selective mutism. Omdal and Galloway (2007; p211) argue that “all information provided by the child is valid (if it has meaning for the child)”. They carried out credibility checks with their sample to explore whether this was the case.

Omdal (2007) also explored selective mutism retrospectively through semi-structured interviews with adults who had selective mutism as children and adolescents. Results were aggregated to identify common themes. Omdal (2007) found that all the participants described themselves as strong-willed, with a conscious determination not to speak. Furthermore, the selective mutism became a defined social role. It was hypothesised that this role became important in the maintenance of the mutism as changes to the 'self' and identity were feared because of concerns about how to cope with people's reactions to them as 'speaking' individuals. As such, the participants in Omdal's sample described a sense of loneliness and isolation as their selectively mute identity was established, which Omdal hypothesised reinforced the mutism.

1.4. Personal Construct Theory

Using Personal Construct Theory (Kelly, 1955/1991) as a source for understanding selective mutism has yet to be developed in the literature. As the name implies, it is a theory of personal constructs; looking at the constructs an individual uses to make sense of their self, others and environment. The approach is underpinned by the notion of constructive alternativism, ie there are multiple ways of understanding the world that give reference to different meanings and interpretations. On this basis, the approach offers methods to explore the complex nature of selective mutism and provides an understanding of the meaning that individuals assign to their experiences. This section will present the basic tenets of Personal Construct Theory to enable an understanding of, and the rationale behind, the current research.

1.4.1. The Nature of Construing & The Experience Cycle

The fundamental postulate of Personal Construct Theory is that people are like scientists who strive to make sense of events, experiences, others and themselves (elements) by detecting repeating themes (constructs) and this enables them to make predictions about their future experiences (Tschudi, 1983). If a prediction is validated, the construct system might be preserved, whereas should a prediction be invalidated, the construct system may be modified. Optimal functioning occurs when a person successfully completes a cycle of an experience and is able to confirm or disconfirm their previous prediction and reconstrue as necessary (see Fig.1). The

inability to reconstrue when predictions are disconfirmed is key to understanding psychological disturbance. Neimeyer (1987) suggests that considering at what stage of the Experience Cycle a person has become 'stuck' is important for restoring psychological movement. He states that the earlier a person becomes 'stuck' in the Experience Cycle, the more serious the degree of disturbance. The Experience Cycle recognises the importance of relationships in a person's construing. Butt (1996) emphasises the social action component of Personal Construct Theory whereby behaviour is not seen as an outcome of genetics or personality but in the context of interaction.

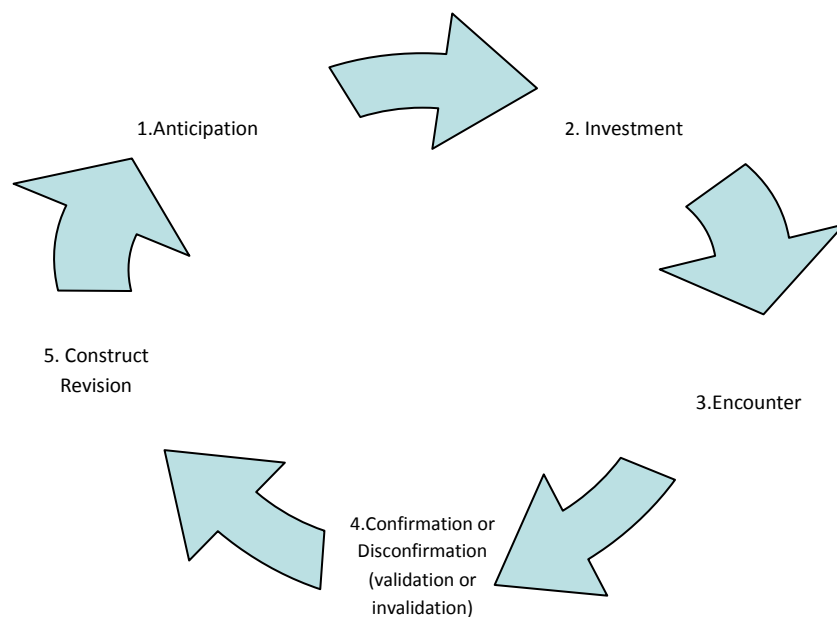


Fig. 1 The Experience Cycle

A range of clues are provided as to the level of anticipated change in the construct system. The emotional components of Kellyan 'threat', 'fear', 'guilt' and 'hostility' are important factors in this process. Feeling fearful indicates that one's current view of the self needs to be changed to make sense of events. However, this is at a more shallow level and not linked to a person's 'core self' constructs (see section 1.4.6.) Feeling threat arises when a person recognises the need to change more superordinate 'core self' constructs (described more fully in section 1.4.6.). Guilt is the feeling associated with being dislodged from the 'core self'. And hostility occurs in

the face of invalidation when a person attempts to protect the 'core self' from change by trying to prove they are right.

As well as the fundamental conceptualisation of the 'person as scientist', Kelly (1955/1991) presented eleven corollaries that provide a basis for understanding the construing process, the structure of knowing and the social embeddedness of construing (Neimeyer, 1987).

1.4.2. The Dichotomy Corollary

Construing involves bipolar dimensions of meaning (Feixas and Saul, 2004). Kelly considered meaning to be clarified by discrimination, ie understanding the similarities and differences in our experiences. For example, we grasp an understanding of the term "white" by our comprehension of "black" and vice versa. This idea stems from constructive alternativism. The main principle is that individuals place labels onto items and categorise events. As such, the tenet considers that there is no one "truth"; there are an infinite number of alternative perspectives that can be imposed onto the human experience. As an example, consider the term "silent". One individual might consider the opposite term to be "loud" whereas another might consider the opposite to be "obnoxious". This goes some way to understanding why it is that when given the same experience, two people may not react in the same way. Butt and Burr (2004, p128) suggest that "a person's emotions always have some meaning, they are never truly irrational". In contrast to other theories, the construct approach views human behaviour as based on the limits of a person's current understanding. This process of predicting events is central to Personal Construct Theory and is key to understanding the reasons behind a person's behaviour.

1.4.3. The Commonality Corollary

The theory's emphasis on individual construing does not ignore the impact of the family and culture on the individual and vice versa. Commonality refers to the fact that while each individual's construing is unique, there are also similarities between people's construing. Commonality provides a person with validation and the safety needed to consider alternative constructs (elaboration; see below - Koch, 1985).

Relationships in which partners validate and extend each other's perceptions tend to be close and enduring (Neimeyer and Neimeyer, 1985). Research has often noted the complex and intertwined relationships that are sometimes involved in the families of the selectively mute child (e.g. Dow, Sonies, Scheib, Moss and Leonard, 1995) which indicates the possibility of the need for a validating environment in these families.

1.4.4. The Individuality & Sociality Corollaries

Kelly's (1955) theory described the individuality corollary which emphasised the uniqueness of individual construing. It states that "people differ from others in the way they construe events, and also therefore in the way they construe themselves" (Butler and Green, 2007; p75). As such, Bannister (1983) defined the self as "what you believe yourself to be" (cited in Butler and Green, 2007; p75). How a person construes their 'self' will influence what experiences they engage in, in the pursuit of validation. This will be discussed further in sections 1.4.6. and 1.4.7., and refers to the Experience Cycle mentioned in section 1.4.1.

In contrast to individual construing is the sociality corollary which emphasises the "extent that one person construes the construction processes of another" (Kelly, 1955; p95). This process is an important part of successful social interacting. Research has found that children who lack the ability to comprehend the construction processes of another are likely to struggle to establish secure friendships (Badenes, Estevan and Bacete, 2000). Fransella (2005) states that a person who does not have a 'role relationship' as per the sociality corollary, does not attempt to see the situation through the eyes of the other person and instead makes an interpretation of the other's behaviour because they are unable to interpret subtle forms of communication. Sociality can be likened to the theory of mind (Baron-Cohen, 2001) described earlier in this chapter, although theory of mind is a cognitive process.

1.4.5. The Choice Corollary & Elaboration

The Choice Corollary addresses the reasons why a person might express one pole of a construct over another, e.g. "silent" v "speaking". Kelly (1991, Vol 2; p4-8) proposed that "a person chooses for himself that alternative in a dichotomised

construct through which he anticipates the greater possibility of extension (elaboration) and definition of his system". That is to say, a person chooses the pole of the construct which enables them to make sense of their world. The choice corollary invites a query as to how a person's behaviour can be understood as an informed choice that enables them to make predictions (Neimeyer, 1987).

Kelly (1955; cited in Neimeyer, 1987; p8) considered elaboration to be when a person is "living on the frontiers of experience", i.e. pushing the boundaries into the unknown. However, some people prefer to stay in their zone of safety, even if this is unhelpful for them. It may be that their choices are too narrow and seem unappealing, or they may provide so many issues that they are too confusing. Elaboration occurs through validation and invalidation of meaning by others, as well as tightening and loosening of constructs (see 1.4.6.) (Viney, Truneckova, Weekes and Oades, 1997). To enable elaboration of a construct system, a person needs to be able to test out whether an alternative construct might provide a firmer basis for anticipation (Winter, 1985).

1.4.6. Cognitive Complexity and Tight & Loose Construing

Psychological movement, according to Personal Construct Theory, is enabled by a process of tightening and loosening constructs. Kelly (1955; p484) regarded new constructs as being formed by "loosening up old ones and tightening up the tentative formulations which begin to take shape in the resulting disarray". Neimeyer (1987) states that loose constructs lead to varying predictions whereas tight construing enables more certainty in an individual's predictions. Movement takes place with fluid tightening and loosening rather than being fixed at one end of the dimension or the other. Overly tight construing is concrete and brittle, which means it can be prone to invalidation. Invalidation of constructs that have implications for superordinate constructs can lead to Kellyan 'guilt'; where a person is dislodged from their core self. Winter (1992; p15) describes how psychopathology represents an individual's strategy "to cope with invalidation and avoid uncertainty". Research has found that people with anxiety disorders tend to react to invalidation by "avoiding and controlling the invalidating situations" (Sassaroli, Lorenzini and Ruggiero, 2005; p35). Kellyan 'hostility' is one method whereby rather than accept invalidation, a person tries to control the situation by forcing it to fit with their constructions. Alternatively,

another response to invalidation might be to “slot-rattle” in which a position is reversed on a construct (Kelly, 1955/1991). Therefore, attempting psychological movement from a “silent” to “speaking” position may lead to slot-rattling if the opposite position on the construct is implicated to a superordinate ‘self’ construct.

With regard to making predictions, Bannister (1963, 1965), in his research into schizophrenia, proposed the ‘serial invalidation hypothesis’. He argued that any construct is intrinsically a prediction by implication. For example, if our constructs of *kinsfolk* and *trustworthiness* are linked, then we expect our cousin to pay back any money he might owe us. Bannister argued that the thought-disordered person has so frequently experienced invalidation (too many cousins had not repaid the money they owed him) that he eventually loosens the linkages between constructs so that no specific expectations are generated. Invalidation is, therefore, avoided at the cost of living subjectively in a meaningless universe. Thus loose constructions lead to varying predictions and tight construing leads to certain predictions. Bannister’s hypothesis (1963, 1965) argues that repeated validation (confirmation of expectations) leads to an intensification of the linkages between constructs until the system becomes ‘cognitively simple’ (Bieri, 1955) and monolithic.

1.4.7. Superordinate Constructs

Feixas and Saul (2004) state that personal constructs are not isolated units but are connected to other constructs by implication lines and make up a hierarchical network as per Kelly’s (1955) organisation corollary. Hinkle (1965) suggested that a personal construct’s meaning is provided by its relationships with, or implications for, other constructs. The construct network is made up of subsystems with core, ‘superordinate’ constructs making up the individual’s sense of self. These superordinate constructs are relevant to whether or not change is able to occur; e.g. should a person have a superordinate construct about their self as a “moral” person, altering their constructs around assertiveness may cause them a dilemma should they consider assertive people to be “disloyal” and “irresponsible” , and if these characteristics imply immorality (Winter, 1985). In personal construct terms, the self is understood in the same way that understanding and meaning is determined in other events, i.e. through construing. Self-construing and superordinacy are fundamental to the entire construct system (Butler and Green, 2007).

1.4.8. Cognitive Conflicts

Cognitive conflicts may result in ambivalence rather than decisive choice if elements are construed in conflicting ways (Bell, 2004). For example, a person may construe 'loud' people as 'unkind' yet construe an element (e.g. a friend) as 'loud' but 'kind', which invalidates the 'loud-unkind' construction.

1.4.9. Applying the Personal Construct approach to Stuttering

The theory behind Fransella's work was based on the choice corollary. As mentioned above, the choice corollary means a person will choose the pole of the construct that leads to greater elaboration of the construing system. Hinkle (1965) further elaborated this idea by suggesting that a person will choose the pole of the construct that enables greater meaning and significance in their life. The meaning of a construct is defined by what it implies. Fransella (1972) hypothesised that a person who stutters, does so as it is in this way that life is more meaningful for them and that the network of implications around being a stutterer would be more complex and elaborate as compared to being a fluent person. Her findings supported this hypothesis. Fransella (2005; p99) states that "all ways of behaving that a person has adopted over many years becomes a part of their 'self' construing". She found that becoming a fluent speaker is relatively meaningless to the person who stutters. Therefore, although they may not like being a stutterer, it is preferable to them than being fluent as it enables them to anticipate and predict their own and others' reactions and behaviour. In relation to an appropriate intervention, Fransella (1972) hypothesised that changing from stuttering to fluency is related to the meaningfulness of being a fluent person.

The focus of the intervention was not on the speech directly but, instead, focused on reconstruing the self and environment by 'elaboration'. Any occasion where the client experienced being a fluent speaker was focused on and the individual was asked whether they knew they would be able to speak fluently at that time. Fransella (2005) argues that participants began to recognise that it was their own construing that made them stutter rather than being helplessly thrust into stuttering. At the end of therapy, the number of implications for being a fluent speaker had increased,

which indicated that speaking had become more meaningful. Furthermore, there was a decrease in the number of implications for being a stutterer, which indicates that this became less meaningful.

Even more interestingly in this research, Evesham and Fransella (1985) compared stutterers who were exposed to either a personal construct approach for their stuttering, or a speech modification technique. The outcome was that the technique group showed more improvement than the personal construct group. However, the relapse rate for the personal construct group was significantly lower than the technique group. Fransella (2005) hypothesised that this outcome would be expected using the personal construct approach as this actively changes the person's construing of their 'self', whereas learning a technique means that reconstruing of the 'self as fluent' does not occur.

1.5. The Current Study

Kelly's Theory of Personal Constructs has been considered a social constructionist (Shotter, 1993) and a constructivist theory (Neimeyer, 2009). Social constructionism and constructivism are related but distinct concepts. They share a unifying theme at the level of their epistemology but whereas the emphasis is on the 'social' in social constructionism, with our worlds constructed through language, constructivism perceives our constructions of the world to be at the individual level. However, Neimeyer (1987) warns that the idiographic aspects of construing in personal construct therapy are not devoid of the systems within which individuals live. Warren (2004, cited in Winter and Viney, 2006) notices that the Experience Cycle involves a process of prediction and validation. He argues that this takes place in one's social context. Moreover, Procter and Parry (1978) acknowledge the social origins of personal constructs but also the contribution of the individual on the social reality in systems. This paper stems from this position; acknowledging the influence of the social on the individual but recognising that construing continues in the realms of the individual's private world providing personal meaning to social constructions, and the reciprocity of this process from individual to social.

It is a challenge to gain access to the private, inner world of the person with selective mutism due to their difficulties with speaking to people outside of their family.

Therefore, research in this area is often gathered using a top-down approach. This

means that the evidence often assumes an external perspective (Stanzel, 1979/1984), i.e. the phenomenon is considered from a position of the person without selective mutism. Stanzel (1979/1984) argues that an external narrative is located in a narrator who does not belong to the world of the characters (a 'subordinate' figure). According to Butt (2008), an object has properties that are independent of the observer. Observers may describe a person in one way but this may not appreciate the attributes of that person from other perspectives. Furthermore, Butt (2008) states that providing a description of a person (e.g. as dependent or anxious, etc) does not *explain* their behaviour. He goes on to say that explanations for behaviour should be sought in the interaction between a person and their environment. He argues that appreciating a person's world-view is a useful method for understanding their behaviour. Moreover, understanding is based on the meaning of events to participants and the context of these. Kelly (1957) warns of putting our own labels and constructs on another. He is reported to have used the example of Procrustes, a Greek mythical figure, who had an obsession that overnight guests fit his spare bed. He would ensure the fit by either stretching them or chopping their legs off. This example shows the metaphorical damage that may be caused by trying to make another person fit our constructs.

As such, the aim of this research was to gain the first-person perspective of selective mutism. People with selective mutism are often isolated and the internet provides them with a method of interacting without the threat of face-to-face communication. The internet, therefore, provides an obvious gateway for collecting data directly from this population. The British Psychological Society (2007) outlines some of the ethical constraints that accompany internet based research. For example, protecting vulnerable participants from distress, ensuring that they provide informed consent to take part, and keeping data confidential are some of the difficulties inherent with this method of data collection. The BPS (2007) provides ethical guidelines for managing the issues that accompany internet based research. They state that researchers should consider ways to manage the professional and personal boundaries, such as using separate professional and personal email addresses. However, they acknowledge that "researchers' work and personal lives may intersect" (BPS, 2007; p7).

Following on from Fransella's (1972) work on stuttering (outlined above), it may be that remaining silent is meaningful to the person with selective mutism in enabling them to predict their environment. Bilmes (1994) states that "where the rule is

'Speak', not speaking is communicative"; and Ephratt (2008) explains that "eloquent silence" is an active means chosen by the individual to communicate, as opposed to a passive state of deficiency (Sobkowiak, 1997). Thus, applying Kelly's choice corollary to selective mutism, not speaking may be an elaborative choice compared to speaking.

There were three main reasons for studying adolescents with selective mutism, as follows:

- (1) Prognosis for adolescents is poor with regard to social adjustment if they are still displaying symptoms associated with selective mutism (Sharkey and McNichols, 2008).
- (2) Participants need to be cognitively able to meet the demands of self-reflection and complete the questionnaires and repertory grid.
- (3) Selective mutism research appears to bypass this age group, with the main focus on early childhood.

Exploring the content and structure of the construct systems of individuals with selective mutism may identify dilemmas and other obstacles to change.

Furthermore, identifying where in the Experience Cycle the person is 'stuck' may enable an understanding of the process involved in the speaking experience for the individual with selective mutism and help to inform appropriate interventions.

1.5.1. Research Questions

The following research questions are posed:

- How do adolescents with selective mutism construe others and themselves when speaking, when mute and as their ideal self?
- How can the participants' mutism be understood as an informed choice, in light of the alternatives?
- What purpose might being mute serve for individuals with selective mutism?
- At what stage of the Experience Cycle do adolescents with selective mutism become 'stuck' so that construct revision becomes impossible?

2. Method

2.1. Design

The study employed a predominantly qualitative design consisting of a range of methods from Personal Construct Psychology to explore a series of case studies. However, data were collected using the repertory grid method, which is a mixed qualitative/quantitative method. The repertory grid method enabled exploration of the content and structure of participants' construing, and Experience Cycle Methodology explored the process of construing. Mason (1997) argues that integrating methods enables exploration of different parts of a process or phenomenon which, in turn, strengthens the validity of the research. Denzin (1978) refers to using multiple techniques as "within-method" triangulation.

2.2. Participants

Six participants aged between 13 and 19 years ($M=16.6$ years) with selective mutism took part in this study. This non-clinical opportunity sample consisted of all females. The target population was subdivided according to age and diagnostic criteria. The minimum inclusion criteria for the study were that participants were aged between 13 and 19 years old and had a current diagnosis of selective mutism or, because they were not presenting to services, if they did not have an official diagnosis they were screened to ensure they met DSM-IV-TR (APA, 2000) criteria for selective mutism. There were no inclusion criteria regarding the length of time that participants had displayed symptoms of selective mutism. However, all participants identified that they had displayed symptoms since early childhood with a delay in subsequent recognition and/or diagnosis which reflects the current research findings. Despite recruitment difficulties, the sample displays a number of characteristics relevant to the adolescent selective mutism population as identified in the literature. Nevertheless, due to its small size and variability, it is likely to be a non representative sample. This will be explored more fully in the Discussion section.

Participants were recruited through a variety of online selective mutism support groups on an internet-based social networking site. The support groups were aimed

at children, adolescents and adults with selective mutism, and their families. The recruitment phase took place over a period of seven months. An ethnographic approach was employed wherein the main researcher was located in the online selective mutism culture for five to six months before data collection began. The researcher was open with members of these groups as to the aims and purpose of her attendance on the sites. It was decided to take this approach as the data required for this study were not available from another method or source and because of the nature of the condition. Overall 11 potential participants expressed an interest in taking part in the study. Five participants did not provide consent after receiving a Participant Information Sheet (see Appendix 3) with details about what the research entailed. One participant withdrew their consent after initially agreeing to take part (see Appendix 4 for Consent Form). Of the six who provided consent, all continued throughout the data collection process.

2.3. Measures

All data were collected via online methods, namely through email interaction or via instant messaging methods. Therefore, measures were either accompanied by clear instructions, or were chosen due to being brief to complete. Qualitative data were collected using the Repertory Grid and the Experience Cycle Questionnaire. Measures of anxiety and depression were obtained using the Hospital Anxiety & Depression Scale (HADS; Zigmond and Snaith, 1983).

2.3.1. Demographic Data

Basic demographic data were collected in order to describe the sample. In addition, some background history information was collected and screening questions were asked in order to identify selective mutism in accordance with DSM-IV-TR (APA, 2000) criteria (see Appendix 5). The following demographic data were collected:

- age
- gender
- ethnicity
- education/employment status

- family background

2.3.2. Experience Cycle Questionnaire

The Experience Cycle Questionnaire (ECM; Oades and Viney, 2000) was designed as a semi-structured interview schedule in which participants are guided through the Experience Cycle as described by Kelly (1970). Open-ended questions are asked in accordance with the five phases of the cycle of experience and emphasises the process nature of construing, which Oades and Viney (2000; p168) call the “construct revision pathway”. Qualitative narratives at each phase of the cycle are quantified by provision of a coding score. The original questionnaire was designed to take 15 minutes to administer in a face-to-face interview (Oades and Viney, 2000). However, the questionnaire for this study was administered over the internet either via instant messaging or via email. Each participant decided on their preferred method depending on their levels of anxiety.

A semi-structured interview guide was used in accordance with the five phases of the cycle. Participants were asked to describe a speaking experience and then asked the following questions:

Anticipation Phase

- What things were you predicting would happen when you spoke?
- What options did you see open to yourself at this time?
- Were you concerned what others may think of you or what you may think of yourself?

Investment Phase

- How much did it matter to you at the time?

Confirmation/Disconfirmation Phase

- How did things go compared to what you initially thought would happen?
- What feelings did you have about this?

Constructive Revision Phase

- In general, what did you learn from your experience of speaking?
- Did you change from your experience?
- Did you change the way you view your selective mutism?

The ECM also includes the ABC technique (Tschudi, 1977) as a method of examining the advantages and disadvantages of change.

2.3.3. Psychometric Properties of the Experience Cycle Methodology (Oades & Viney, 2000)

The ECM is a qualitative procedure that enables data to be quantified. Its easily identifiable questions relating to each section of the Experience Cycle mean that a level of standardisation can be achieved. This is especially so with the administration of the instrument over the internet, with limited input from the researcher to influence the responses. In addition, responses are used according to their typewritten form from the original participant which means that there is no possibility of researcher error in transcribing (Poland, 1995).

Oades and Viney (2000) recognise the need for further validation of their methodology although they have addressed issues of credibility and inter-rater reliability (Oades and Viney, 1998). However, the ECM has face validity in that it appears to capture the Experience Cycle, as described by Kelly (1955/1991).

2.3.4. The ABC Technique of Tschudi (1977)

Tschudi (1977; Tschudi and Sandberg, 1984) described his ABC method as a way of discovering the meaning and advantages of 'symptoms'. This is based on the idea that if we seem unable to change a behaviour, then it is because that behaviour has some advantage or purpose. The method is shown in Figure 2.

How do you now see the advantages and disadvantages of speaking?

A1	Not speaking	A2	Speaking
Preferred?			
B1	Disadvantage of not speaking	B2	Advantage of speaking
C1	Advantage of not speaking	C2	Disadvantage of speaking

Figure 2: The ABC Technique (Tschudi, 1977)

Tschudi (1977) developed the ABC Technique as a method for identifying dilemmas, whereby switching the self-construct from one pole to the other will highlight implications for other constructs. The model states that A1 is the problem position (the symptom) and A2 is the desired position. B1 and B2 identify the reasons for change but C1 and C2 are the reasons that prevent change.

2.3.5. Repertory Grid

The repertory grid is a formalised method that enables the examination of a person's construct system. It assigns mathematical values to the relationships between a person's constructs (Fransella, Bell and Bannister, 2004). Grid data may throw light on the underlying structure and content of a person's construing. However,

constructs elicited for grids provide only a small glimpse of how a person construes their world.

Constructs are discriminations made between people, events or things. Participants were asked to consider aspects of themselves and others by considering “role titles” (elements). Research has found that the choice of elements affects the nature of the grid data (Mitsos, 1958; Bannister and Fransella, 1967; Adams-Webber, 1997; Bell, Vince and Costigan, 2002). Kelly’s role titles covered six groupings, namely;

- self
- situational (e.g. minister)
- values (e.g. an ethical person)
- family (e.g. father)
- valencies (e.g. a pitied person)
- intimates (e.g. old flame)
- authorities (e.g. boss)

Elements were chosen to fit with role titles according to Kelly’s original theory, but also with consideration as to those people in the participants’ lives with whom they might speak or remain mute. Kelly (1955/1991) stated that elicited constructs should be on “the basis of a real social interaction” with other people. Furthermore, because of the mode of communication (i.e. via computer) the number of elements was lower than might have been used in face-to-face discussion. The following elements were provided:

- a teacher you like
- a teacher you dislike
- your mother or a mother figure
- your father or a father figure
- your brother or sister closest in age to you or a brother/sister figure

- someone you dislike
- yourself in a situation where you are comfortable speaking (self speaking)
- yourself in a situation where you are uncomfortable speaking (self mute)
- Ideal self

Bipolar constructs were elicited by asking participants to consider triads of their chosen elements and “describe one way in which two of these people are alike and yet different from the third”. Participants were asked to identify the opposite construct pole from the one elicited and to identify their preferred pole.

Five triads contained a constant element “self speaking”, with the other elements in the triad being:

- teacher you like and teacher you dislike
- teacher you dislike and mother
- mother and father
- father and sibling
- sibling and person you dislike

Five triads contained a constant element “self mute”, with the other elements in the triad being:

- teacher you like and teacher you dislike
- teacher you dislike and mother
- mother and father
- father and sibling
- sibling and person you dislike

Participants were then asked to rate the elements on each construct on a scale from 7 (representing the ‘preferred’ pole) to 1 (representing the ‘non-preferred’ pole). (see Appendix 7).

2.3.6. Psychometric Properties of the Repertory Grid

Fransella, Bell and Bannister (2004) argue that reliability in repertory grid terms is a contradiction as Kelly's theory was based on man "in motion" rather than as a "static mind". They state that it may be more sensible to regard 'reliability' as the way in which people maintain or alter their construing and to estimate the value of a grid in terms of whether it is an instrument that enables investigation of this. Nevertheless, there is now a considerable amount of research attesting to the reliability and validity of grid measures (Fransella *et al*, 2004; Winter, 1992; Adams-Webber, 2004; McDonagh and Adams-Webber, 1987).

2.3.7. Hospital Anxiety & Depression Scale

In order to allow for the possible confounding variables of anxiety and depression, the Hospital Anxiety and Depression Scale (HADS) was administered. (Zigmond and Snaith, 1983). This standardised measure was developed for use with adults but subsequent research has found it has suitable psychometric properties for discriminating between anxiety and depression in adolescents from the age of 12 (White, Leach, Sims, Atkinson and Cottrell, 1999). The HADS is a 14-item self-report measure wherein participants rate their psychological, behavioural and somatic symptoms over the previous week on a four-point scale from 0-3. It contains two subscales, one measuring anxiety and one measuring depression.

2.3.8. Psychometric Properties of the HADS

The manual reports internal consistencies of between 0.76 and 0.41 for anxiety and between 0.6 and 0.3 for depression (Zigmond and Snaith, 1983). Concurrent validity was assessed by comparison with five-point psychiatric rating scales of anxiety and depression for 100 medical outpatients. Significant correlations were reported as 0.54 for the anxiety scale and 0.79 for the depression scale (Zigmond and Snaith, 1983).

2.4. Procedure

Once ethical approval was obtained, the study was advertised on an internet-based, social networking site. Various support groups aimed at children, adolescents, adults and their families were identified and approached requesting permission to advertise on their “wall”. Potential participants were identified from social networking selective mutism support groups. They were approached via email, providing brief details about the study. The recruitment phase took place over a period of seven months before data collection began. As soon as participants expressed an interest in taking part, they were asked to “opt-in” by providing the researcher with a private email address. Upon receipt of this information, participants were provided with the Information Sheet containing the invitation to participate and details about the study, as well as the Consent Form. They were also provided with the interview schedule, containing the Experience Cycle Questionnaire and the Background Information Questionnaire that enabled screening and identification as to whether participants met DSM-IV-TR criteria (APA, 2000). Finally, they were provided with the Hospital Anxiety and Depression Scale (HADS; Zigmond and Snaith, 1983).

Due to the inherent difficulties with communication for this population, it was important to be tentative and cautious with regard to completing the questionnaires. Participants were asked to consider the process they would prefer to follow for completing the questionnaires, ie (1) to have them via email and complete them alone or with a parent, (2) to have them separately or all in one pack, (3) to complete them with the researcher via email, or (4) to complete them with the researcher via instant messenger. Only three participants requested researcher support through the use of instant messenger. One participant requested support but through email, which prolonged the process of data collection. Upon completion of this phase, there was a break in data collection. Data collection continued at a time suited to the individual participant, which varied according to their schedules and mental health.

The next stage was to complete the repertory grid. Again, the method of completion depended on the individual’s anxiety levels in response to communicating with the researcher. Where the repertory grid was completed by email, it was administered in three stages. The first email contained instructions on identifying the role lists. The second email contained the instructions for identifying the constructs. The final email provided instructions for ranking the elements according to the constructs. The

alternative method was to complete the repertory grid with the researcher via instant messenger. Participants who preferred this method also preferred the researcher to record the responses.

The final stage involved a discussion of the debrief sheet and managing any distress. Again, this happened through internet messaging or via email. Participants were encouraged to seek sources of support should they have any concerns following participation.

2.5. Analysis

2.5.1. Experience Cycle Methodology

Participants' narratives were coded into categories and converted into quantitative data (Oades and Viney, 2000). These categories are displayed in Table 1 below.

Table 1. Category Groupings of Experience Cycle Methodology Data

Phases	Groups	
Anticipation Phase	(1) Tight Prediction	(2) Loose Prediction
Investment Phase	(1) High Investment	(2) Low Investment
(Dis)Confirmation Phase	(1) Validation	(2) Invalidation
Construct Revision	(1) Significant Revision	(2) Minimal Revision

Research has identified that participants who report "significant construct revision" in their narrative would be rated as making tight predictions in the anticipation phase, high investment in the investment phase and invalidation in the (dis)confirmation phase (Lamiell, 1995; Oades and Viney, 2000).

Using the Experience Cycle Methodology (Oades and Viney, 2000) the participants' narratives were coded separately by two different raters to check inter-rater reliability. The second rater was independent of the study and blind to the participant details.

Any discrepancies in coding were discussed and a consensus agreed upon. A raw percentage agreement of 91.67% was reached between raters.

2.5.2. Analysis of Grids

2.5.2.1. Analysis of Raw Grid Scores

Participants' raw grid scores were examined in order to explore how they construe themselves and others when speaking, when mute and construing of themselves in their idealised form. Constructs were examined in those cases where participants rated them with an extreme score (either 1 or 7).

2.5.2.2. IDIOGRID (Grice, 2002)

Participants' individual grids were analysed using the repertory grid software IDIOGRID (Grice, 2002). Each participant's data were analysed using single-grid Slater analysis (Slater, 1977). The following measures were considered:

Principal Component Analysis

The principal component analysis provides a two-dimensional spatial representation of constructs and elements. The percentage of variance for the first principal component provides a measure of cognitive complexity (Winter, 1992). A tight construction system is indicated by a higher percentage of variance score. This means that the participant's construing is more one-dimensional or 'cognitively simple'. A lower score indicates a looser construction system with more complexity.

Element Statistics

i. Distances between elements

The distances between elements were considered for each participant using the Standardised Euclidean Distances (Grice, 2002). The following distances were considered:

- self speaking and ideal self
- self mute and ideal self
- self speaking and non-self elements
- self mute and non-self elements

This distance between a pair of elements indicates how alike or different the participant construes them to be and scores on this measure range from 0 to approximately 2.

ii. Saliency (Meaningfulness)

Saliency was calculated by the percentage total sum of squares for elements. A higher score indicated greater saliency.

Construct Statistics

i. Superordinacy

Superordinacy follows from Kelly's Organisational Corollary in which superordinate constructs may subsume subordinate constructs (Kelly, 1955). One measure of superordinacy is the percentage sum of squares accounted for by a construct (Bannister and Salmon, 1967; cited in Fransella and Bannister, 1977): the higher the score, the more superordinate the construct. The present study considered the average percentage sum of squares for constructs elicited using the self when speaking element and the average percentage for those elicited using the self when mute.

ii. Intensity score

Intensity refers to the 'intensity of the relationship between constructs' (Bannister, 1960) and indicates the structure and organisation of a person's construct system. The sum of squares of the correlations of constructs elicited from the 'self when speaking' triads and those elicited from the 'self when mute' triads were calculated. The greater the score, the more structured and organised the construct system concerned (although at high levels this may indicate cognitive simplicity and brittleness).

2.5.2.3. GRIDSTAT (Bell, 1998)

Conflict Analysis

Bell (2004) described cognitive conflicts as inconsistencies in construing. Cognitive conflicts are associated with ambivalence. Bell (2004; p54) proposed that cognitive conflicts will arise under the following conditions:

1. “An element is at the same time similar or close to two “construct poles” which are themselves different or distant.
2. An element is similar or close to one construct pole and at the same time is different to or distant from another construct pole, where the two construct poles are similar or close.”

Cognitive conflicts, in the present study, were identified by entering the repertory grid data into Bell’s GRIDSTAT (1998) programme. Individual mean percentage conflict scores were provided for self speaking, self mute and ideal self elements, as mean percentage conflict scores were calculated for constructs elicited from triads involving the self when speaking and those involving the self when mute.

2.5.2.4. Content Analysis of Repertory Grid Constructs (Feixas, Geldschlager and Neimeyer, 2002)

Feixas, Geldschlager and Neimeyer (2002) developed the ‘Classification System for Personal Constructs’ (CSPC) which consists of a six-category coding scheme made up of 45 sub-categories. It is hierarchically organised with categories divided into the following areas: (1) moral, (2) emotional, (3) relational, (4) personal, (5) intellectual/operational, and (6) values and interests. Feixas *et al* (2002; p2) state that “the analysis of structure and content of personal construct systems offers a systematic means of studying the organisation and thematic emphases of individuals’ systems of meaning, a primary goal of constructivist psychologists”.

The original means for categorising personal constructs was provided by Landfield (1971) consisting of 32 categories with highest inter-rater agreement. Feixas *et al* (2002) identified five limitations for using Landfield’s (1971) coding system. These include (1) an overlap in categories; (2) its non-comprehensive nature; (3) consideration of construct poles as separate; (4) the mixed use of related categories;

and (5) blending of formal and content aspects. Feixas *et al* (2002) aimed to overcome these limitations of Landfield's (1971) original system. Content analysis was used by Fransella (1972) in her study of people who stutter. However, she used Landfield's (1971) system, as opposed to the CSPC system used in the current study. Fransella (1972) reported that a 'substantial minority' of constructs could be allocated to different categories, and found inter-rater percentage agreements of between 59% and 75%.

For the current study, group content analyses were carried out to consider constructs elicited overall as well as from triads containing the 'self when speaking' element compared to the 'self when mute' element. Using the CSPC system (Feixas *et al*, 2002), the grid constructs were coded separately by two different raters to check inter-rater reliability. The second rater was independent of the study. Any disagreements were discussed and consensus agreed upon by first considering the area in which the constructs appeared to be concerned, before then identifying an appropriate category. An overall inter-rater percentage agreement of 53% was achieved for the content analysis of all participants' grids. Individual grids achieved varying inter-rater percentage agreements ranging from 40% to 80%. Major discrepancies were found in 33% of the overall ratings (i.e., classification of the construct in different areas), and 20% were minor discrepancies (i.e., classification of the construct in a different category but within the same area). The final decision tended towards one of the raters' initial choices. However, on two occasions, a third category was selected. The raters had independently coded the construct "helpful – uncooperative" as "sympathetic-unsympathetic" in the Relational Area, and "flexible-rigid" in the Personal Area. The raters agreed that the construct fell in the Relational Area and appointed it in the "peaceable-aggressive" category. On the second occasion, the raters both coded the construct "proud-disappointed" in the supplemental "Existential" Area but independently in the "growth-stagnation" and "fulfilment-emptiness" categories. The raters both consented that the construct should be rated in the "Emotional" Area in the "optimist-pessimist" category. The limitations of the study's content analysis will be explored further in the Discussion.

2.5.2.5. Psychometric Properties of the CSPCSystem

Feixas *et al* (2002) reported that the relational, personal and emotional areas were coded most frequently (20-25%), followed by the moral area (15%) and then the remaining areas equally (5% frequency). A high level of inter-rater reliability was found. The level of inter-rater agreement was kappa=0.89 over the 45 categories (raw percentage agreement of 87.3%) and a kappa of 0.95 was obtained for the six areas (Feixas *et al*, 2002). They state that more than half of their disagreements between raters were minor discrepancies (i.e. different category but within the same area) which they argued could be evidence of the reliability of their area classifications.

2.6. Ethical Considerations

2.6.1. Ethics Approval

Participants were recruited from a non-NHS sample. As such, ethical approval was granted by the School of Psychology, Ethics Committee, University of Hertfordshire (see Appendix 2).

2.6.2. Informed Consent

Participants signed a Consent Form confirming that they had had the opportunity to read through the Participant Information Sheet and ask questions relating to the information within this. The Consent Form included confirmation that participation was voluntary and that participants could withdraw from the study at any point without needing to provide a reason. As the sample were not engaged in mental health services, there was no possibility of implicit coercion to take part or concerns of any detrimental effects should they choose to withdraw consent.

2.6.3. Confidentiality

Keeping data confidential was a challenge for the researcher as data had to be collected via the internet. However, participants were engaged in various selective

mutism support groups on a social networking site which provided them with control over their privacy. Data were exchanged via password-protected emails or instant messenger and stored on a password-protected computer. Only the main researcher had access to the passwords. All data were labelled using pseudonyms with only the main researcher having access to each participant's real identity.

2.6.4. Procedure for Managing Participants' Distress

The research asked participants to complete a screening questionnaire that asked personal background questions. They were also asked about their current speaking experiences. These items carried the possibility of causing participants a level of distress. Due to the difficulties inherent with being unable to meet participants face to face, offers of support were provided throughout the data collection procedure via email or instant messenger. Participants were offered reassurance that they could contact the researcher at any time should they have any queries or concerns. As this was via email, the researcher was available around the clock. Upon completion of the study, participants were provided with a debrief sheet containing information about the study as well as further sources of support that they could contact over the internet, bearing in mind that participants could not utilise telephone or face-to-face services. Feedback from participants was that participating in the study was a positive experience. One participant expressed concerns about painful memories prior to completing the Experience Cycle Questionnaire. Data collection was suspended, during which time the researcher provided support through email and an instant messaging service. Post-completion, the feedback was that it was the "most enjoyable experience I have had for some time".

3. Results

This section will detail the findings of each participant and the group. The six participants who fulfilled criteria for the study were all female. Pseudonyms have been used throughout.

3.1. Group Demographic Data

Table 2 displays the demographic data of the participants. As well as demographic information, each participant provided details about their family background and a brief history. Furthermore, they provided information about their selective mutism that indicated they met criteria for DSM-IV-TR (2000). Due to the difficulties with engagement of the participants, as well as the global nature of recruitment, this information was unable to be verified from other sources.

Table 2. Demographic Information

Name	Age	Ethnicity	Resides	First Language	School/ Employment Status	Age when SM first recognised/ diagnosed
Louise	19	White British	UK	English	Recently withdrew from university due to SM	12 years old.
Abbie	15	Hispanic	USA	American-English	Attends high school.	Age 11. Diagnosed at age 14 years.
Holly	18	White British	UK	English	Beginning college in 2011.	Age 16.
Emily	16	White British	UK	English	Attends secondary school.	Diagnosed in early childhood.
Rachel	13	White Greek/American	Greece	American-English	Attends school.	Diagnosed at age 11.
Mary	19	White	Canada	English	Educated via online and mail services.	No formal diagnosis.

In addition to demographic information, the group also provided some personal information, as follows:

Louise is a 19 year old white British female with a younger sister (age 16). She lives at home with her father and sister. She described having anxiety and depression, for which she takes medication. Louise described having attended therapy sessions for her selective mutism, although she did not state when and what model was used.

Abbie is a 15 year old Hispanic female, who lives in the USA. She has a 9 year old sister and lives at home with her father, mother and sister. Abbie has recently increased the amount of people whom she speaks to, although she states that others still need to initiate the conversation. She described her decision to speak with more people as a conscious choice. There is a history of depression and bipolar disorder in Abbie's family.

Holly is an 18 year old white British female. She has a 15 year old brother and lives with him and her mother. She is not aware of any history of psychiatric difficulties in her family. Holly has written a book, which is being considered for publication, about her experience of living with selective mutism. She is also active in raising awareness and provides support to others via an online social networking site.

Emily is a 16 year old White British female. Emily first showed signs of selective mutism under the age of 3 years old. However, her symptoms improved for a while until she was 11 at the transition to secondary school. She continued to struggle and did not attend school for 18 months. This led to an episode of depression and admission to a mental health unit for two months. Emily currently lives at home with her mother and five month old baby brother. She has a step-father who lives with them but works away from home. She finds attending school difficult and "lonely".

Rachel lives at home with her mother, father and 10 year old sister. They live in Greece. Rachel describes herself as White Greek/American. She attends school, where she whispers to three friends and two teachers only. Rachel states that there is no history of mental health problems in her family.

Mary is a 19 year old white female who lives in Canada. She is being educated via online and mail service. Mary has a 17 year old brother but is not living with her family. She lives with her best friend and best friend's family. Mary describes a family history of anxiety disorders, depression and low self-esteem. She has a history of PTSD. Mary described how, once in an established non-speaking

relationship, speaking is particularly difficult. She often finds it easier to talk to a stranger because they do not have any expectations of her to speak, which makes it easier to try. Furthermore, she described how praise or excitement in those with whom she has a non-speaking relationship can actually make the process of speaking worse. In her relationships with strangers, they do not respond to her speaking, which makes speaking easier. Mary also described how talking is harder in 'dead silence' and it is easier if there is a radio playing in the background. Eye contact is also difficult, so sitting beside a person with selective mutism, rather than opposite, is helpful.

3.2. Hospital Anxiety & Depression Outcomes

Table 3 describes each individual's anxiety and depression scores as indicated using the Hospital Anxiety and Depression Scale (HADS; Zigmond and Snaith, 1983). Interpretation of the HADS is as follows: a cut-off score of 8-10 indicates mild anxiety/depression, 11-14 indicates moderate anxiety/depression and 15-21 indicates severe anxiety/depression. The outcomes for this sample were as follows:

Table 3. Hospital Anxiety & Depression Scale Scores

Name	Anxiety Score	Depression Score
Louise	18	11
Abbie	13	4
Holly	16	4
Rachel	16	5
Emily	16	11
Mary	13	6

As can be seen in Table 3, participants in this study are scoring in the moderate to severe range for symptoms of anxiety. Both Emily and Louise's scores indicate moderate levels of depression. However, the remaining participants in the sample do not reach the cut off score for depression, which indicates that they are not reporting symptoms in this regard.

3.3. Individual Results

3.3.1. Case Study One: Louise

3.3.1.1. Experience Cycle Methodology Data

The outcomes of Louise's Experience Cycle Questions are presented below in Table 4. A quote from each of the phases is provided to support the coding.

Table 4. Category Groupings of Experience Cycle Methodology Data

Phase	Category Grouping	Quote/Evidence
Anticipation Phase	Tight Prediction	"I thought that my words would come out in a jumbled, nonsensical manner and my voice would be all choked and squeaky"
Investment Phase	High Investment	"I knew that the consequences of failing to speak at this important time would have a great blow to my self confidence and others confidences in me. But it also mattered because it was a big opportunity to greater my self esteem and improve my confidence about speaking. I thought the benefits of success would outweigh the risk"
(Dis)Confirmation Phase	Invalidation	"I think it went okay and much better than initially thought"
Construct Revision	Minimal Revision	"I learnt that in situations where the benefits of speaking outweighed my anxiety over speaking itself it is worth taking the risk"

3.3.1.2. ABC Technique (Tschudi, 1977)

Presented in Figure 3 are the advantages and disadvantages of speaking and not speaking for Louise. A1 and A2 are Louise's problematic position (symptom of selective mutism) and her desired position. The B1 and B2 positions identify the

possible reasons for change. However, C2 and C1 are factors that prevent change for Louise, i.e., she is less anxious when she does not speak, and the pressure of social interaction is tiring.

A1	Not Speaking	A2	Speaking
Preferred?			X
B1	Disadvantage of not speaking	B2	Advantage of speaking
	Frustration at nobody knowing what I'm thinking and missing opportunities.		I can let people know what I'm thinking and stop people thinking I'm rude or stupid for not speaking.
C2	Advantage of not speaking	C1	Disadvantage of speaking
	People are less likely to try and engage with me, so I feel less anxious overall.		There is pressure to keep up the higher level of social interaction which tires me out a lot.

Figure 3. ABC technique depicting the advantages and disadvantages of speaking for Louise

3.3.1.3. Repertory Grid Data

Principal Component Analysis

Figure 4 shows a plot of the loadings of elements and constructs on the first two components from the principal component analysis of Louise's grid. It represents how Louise construes her self and non-self related elements in construct space.

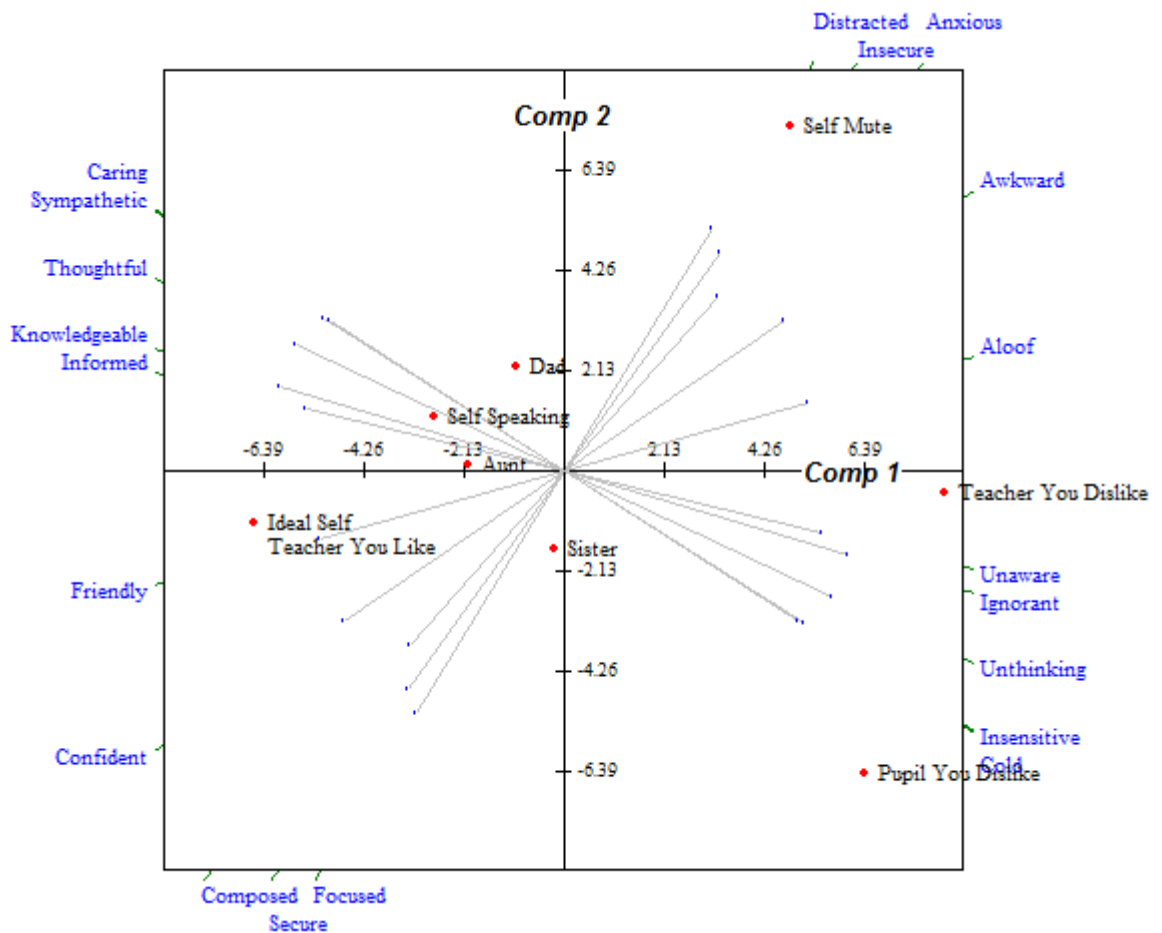


Figure 4. Plot of elements in construct space

The first component, which accounts for 61.27% of the variance, contrasts people who are knowledgeable, thoughtful and informed with people who are ignorant, unthinking and unaware.

The ideal self and the teacher she likes are construed in the former terms and contrasted with the teacher and pupil she dislikes and the self when mute.

The second component, which accounts for 28.46% of the variance, contrasts people who are focused, secure and composed with people who are distracted, insecure, anxious but also sympathetic and caring.

The pupil she dislikes is construed as focused, secure and composed and contrasted with her self when mute who is construed as distracted, insecure and hesitant but also sympathetic and caring.

The self when speaking is much closer to the origin of the plot than the self when mute, which indicates that she has a less elaborated view of her self speaking than she does of her self when mute. Her mute self is in the opposite quadrant to her ideal self; and Louise's construing of her self when she is speaking is closely related to how she construes her dad and her aunt.

Element Statistics

i. *Distances between Elements*

The relative distance of the ideal self from the self when speaking (0.47) and self when mute (1.47) indicates that the self when speaking is construed as more similar to the ideal self than the self when mute.

The average distance of the self-speaking element from the non-self elements is 0.7. The average distance of the self when mute element from the non-self elements is 1.17. This indicates that Louise sees her self when mute as more different to other people compared to her self when speaking.

ii. *Saliency (Meaningfulness)*

The percentage sum of squares for the self when mute is 21.52 whereas that for the self speaking which is 2.85. This indicates the self when mute is more salient for Louise than the self when speaking.

Construct Statistics

i. *Superordinacy*

For Louise, the average percentage sum of squares for the self when speaking is 10.54 compared to 9.45 for the self when mute constructs. This indicates that constructs in Louise's 'speaking subsystem' are more superordinate than those in her 'mute subsystem'.

ii. *Intensity*

The intensity score of the speaking subsystem is 0.49, which is greater than the intensity score of the mute subsystem of 0.38. This indicates that for Louise, her speaking subsystem is more structured than the mute subsystem.

3.3.1.4. Conflict Analysis

Table 5 shows the percentage of conflict for Louise's 'self' elements and mean conflict scores for self when speaking and self when mute. Louise's score suggest that she has more conflict associated with her self when mute than with her speaking self or ideal self. In addition, Louise's mean score suggests there are more conflicts attributed to construing associated with her self when speaking than self when mute constructs.

Table 5 – Conflict scores for self elements and mean conflict scores for grid elements and constructs

Element	% conflict attributable to element	Mean % conflict score attributable to constructs
Self speaking	1.5	10.38
Self mute	24.6	9.62
Ideal self	0.0	-

3.3.1.5. Summary of Louise's Results

1. Experience Cycle Methodology

With regard to Louise's experience of speaking, as her hypothesis was invalidated, it would be expected that she would revise her construing. However, the outcome of her ECM indicates that she made only minimal revisions to her construing in response to invalidation.

2. ABC Technique

The outcome of Louise's ABC indicates that she finds social interaction tiring and not speaking means she feels less anxious. This implicative dilemma perhaps prevents Louise from speaking. However, she also states that there are some positive implications of speaking in that it prevents others thinking she is 'rude' or 'stupid'.

3. Repertory Grid

Louise's scores indicate that she perceives her self when mute as further from her ideal self and less like other people than her self when speaking. Louise has a clearer view of her self when mute than of her self when speaking. The constructs in her 'speaking subsystem' are more superordinate than those in her 'mute subsystem' and these constructs also seem to provide a more structured way of viewing the world that enables greater prediction. Louise's conflict analysis revealed that her self when mute has much more inconsistency in her construing than her self when speaking, although there is little difference in the conflict in her mute and speaking subsystems.

3.3.2. Case Study Two: Abbie

3.3.2.1. Experience Cycle Methodology

Abbie's responses to the Experience Cycle Questions are presented in Table 6.

Table 6. Category Groupings of Experience Cycle Methodology Data

Phase	Category Grouping	Quote/Evidence
Anticipation Phase	Tight Prediction	"I thought I'd faint or be judged by everyone. Terrified I'd fail and never be able to speak out loud again."
Investment Phase	High Investment	"It was a constant worry day and night"
(Dis)Confirmation Phase	Invalidation	"It went very much better" [than anticipated]
Construct Revision	Significant Revision	"I learnt that you haven't failed unless you've tried" (sic)

3.3.2.2. ABC Technique (Tschudi, 1977)

Presented in Figure 5 are the advantages and disadvantages of speaking and not speaking for Abbie. A1 and A2 are Abbie's problematic position (symptom of selective mutism) and her desired position. The B1 and B2 positions identify the possible reasons for change. However, C2 and C1 are factors that make speaking difficult for Abbie. She indicates that she finds it difficult to anticipate situations when she is interacting in a speaking capacity, which means she has panic attacks.

A1	Not Speaking	A2	Speaking
Preferred?			X
B1	Disadvantage of not speaking	B2	Advantage of speaking
	People are either hesitant or don't approach me, I can fall into depression quickly when I'm ignored for too long		Worrying less about certain situations, having more confidence
C2	Advantage of not speaking	C1	Disadvantage of speaking
	I can't think of any		Not having enough "closure" about what will happen the next time, frequent panic attacks

Figure 5. ABC technique depicting the advantages and disadvantages of speaking for Abbie

3.3.2.3. Repertory Grid Data

Principal Component Analysis

Figure 6 is a plot of the loadings of elements and constructs on the first two components from the principal component analysis of Abbie's grid. It represents Abbie's construing of her self and non-self related elements in construct space.

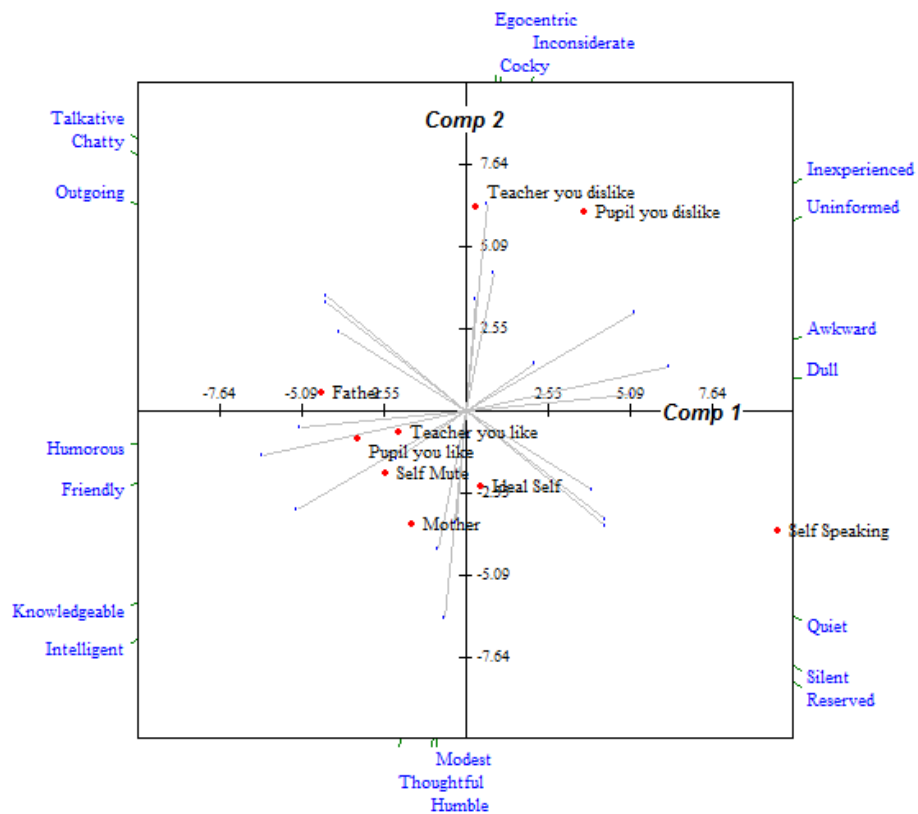


Figure 6. Plot of elements in construct space

The first component which accounts for 50.93% of the variance contrasts people who are friendly, knowledgeable and humorous with people who are awkward, uninformed and dull.

Her father is construed in the former terms and contrasted with self when speaking and the pupil she dislikes.

The second component, which accounts for 38.35% of the variance, contrasts people who are humble, thoughtful and modest with people who are cocky, inconsiderate and egocentric, but also talkative and chatty.

Her mother is construed as humble, thoughtful and modest and contrasted with the teacher and pupil she dislikes, who are construed in the latter terms.

The self when mute and ideal self are closer to the origin of the plot than the self when speaking, which indicates that she has a less elaborated view of herself when mute and as her ideal than she does of her self when speaking. Abbie's construing of herself when mute is closely related to how she construes the teacher and pupil she likes.

Element Statistics

i. *Distances between Elements*

The relative distance of the ideal self from the self when speaking (1.13) and self when mute (0.45) indicates that the self when mute is construed as more similar to the ideal self than the self when speaking.

The average distance of the self-speaking element from the non-self elements is 1.51. The average distance of the self when mute element from the non-self elements is 0.75. This indicates that Abbie sees her self when speaking as more different to other people compared to her self when mute.

ii. *Saliency (Meaningfulness)*

The percentage sum of squares for the self when speaking is 36.26 compared to the self when mute which is 3.91. This means that the self when speaking is more meaningful for Abbie than her self when mute.

Construct Statistics

i. *Superordinacy*

For Abbie, the average percentage sum of squares for the self when speaking is 8.13 compared to 11.87 for the self when mute constructs. This indicates that constructs in Abbie's 'mute subsystem' are more superordinate than those in her 'speaking subsystem'.

ii. *Intensity*

The intensity score of the mute subsystem is 0.46, which is greater than the intensity score of the speaking subsystem which is 0.37. This indicates that for Abbie, her mute subsystem is more structured than the speaking subsystem.

3.3.2.4. Conflict Analysis

Table 7 shows the percentage of conflict for Abbie's 'self' elements and mean conflict scores for self when speaking and self when mute. Abbie's score suggest that she has more conflict associated with her speaking self than with her mute self or ideal self. Conversely, there are more conflicts associated with constructs attributed to her self when mute than her self when speaking constructs.

Table 7 – Conflict scores for self elements and mean conflict scores for constructs

Element	% conflict score attributable to elements	Mean % conflict score attributable to constructs
Self speaking	27.5	9.34
Self mute	0.8	10.66
Ideal self	4.2	-

3.3.2.5. Summary of Abbie's Results

1. Experience Cycle Methodology

The outcome of Abbie's ECM supports Oades & Viney's (2000) research in that invalidation of her construing led to significant revision.

2. ABC Technique

The outcome of Abbie's ABC indicates that she has difficulty anticipating what will happen when she speaks to others, which makes her feel panicky and may prevent

her from engaging in speaking experiences. However, Abbie states that the negative implications of not speaking are that she can “sink into a depression” when ignored.

3. Repertory Grid

Abbie’s scores indicate that she views her self when speaking as different from her ideal self and different from other other people, as opposed to her self when mute. She also has a clearer view of her self when speaking as opposed to her self when mute. Nonetheless, her mute subsystem provides her with more structure to enable her to make sense of her world. Abbie’s conflict scores indicate that she has much more conflict associated with her self when speaking than when mute, although there is slightly more conflict in her mute than in her speaking subsystem.

3.3.3. Case Study Three: Holly

3.3.3.1. Experience Cycle Methodology

Holly’s responses to the Experience Cycle Questions are presented in Table 8.

Table 8. Category Groupings of Experience Cycle Methodology Data

Phase	Category Grouping	Quote/Evidence
Anticipation Phase	Tight Prediction	“I would be expecting a strong reaction [from others] while being afraid that my mind would go blank and forget what I was going to say”
Investment Phase	High Investment	“it felt as if it were the only thing that mattered in the world”
(Dis)Confirmation Phase	Invalidation	“not as bad as I had expected”
Construct Revision	Significant Revision	“I learnt that there is no reason to be afraid of speaking and that it is just more or less just no more than a psychological problem”

3.3.3.2. ABC Technique (Tschudi, 1977)

Presented in Figure 7 are the advantages and disadvantages of speaking and not speaking for Holly. A1 and A2 are Holly's problematic position (symptom of selective mutism) and her desired position. The B1 and B2 positions identify the possible reasons for change. However, for Holly, talking raises concerns about being considered impolite and not listening to others as well as perceiving others as more fond of people who are silent as they listen and appear respectful.

A1	Not Speaking	A2	Speaking
Preferred?			X
B1	Disadvantage of not speaking	B2	Advantage of speaking
	It can lead to a low self-esteem and low confidence since you tend to feel depressed of the given time.		Speaking is as essential to day-to-day life as water is essential to the body. It makes you feel good and allows you to build relationships with others around you, henceforth allowing you to function
C2	Advantage of not speaking	C1	Disadvantage of speaking
	I suppose some people can be more fond of silent people since they actually listen and appear respectful.		If you are speaking, you listen less and could be considered impolite.

Figure 7. ABC technique depicting the advantages and disadvantages of speaking for Holly

3.3.3.3. Repertory Grid Data

Principal Component Analysis

Figure 8 is a plot of the loadings of elements and constructs on the first two components from the principal component analysis of Holly's grid. It represents Holly's construing of her self and non-self related elements in construct space.

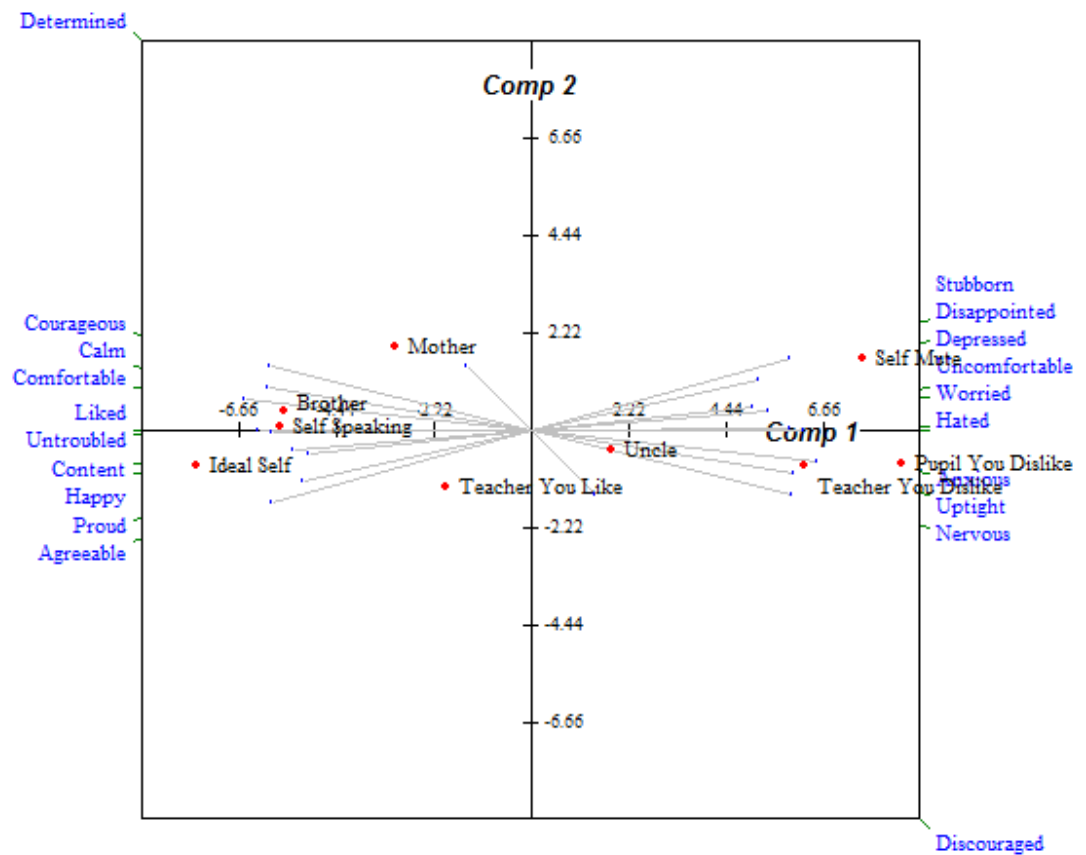


Figure 8. Plot of elements in construct space

The first component, which accounts for 93.13% of the variance, contrasts people who are comfortable, liked and calm with people who are anxious, hated and uptight.

Her ideal self is construed in the former terms and contrasted with self when mute and the pupil she dislikes, who are construed in the latter terms.

The second component, which accounts for 3.15% of the variance, contrasts people who are agreeable and proud with people who are stubborn and disappointed, but also with people who are courageous and determined.

Her teacher she likes is construed as agreeable and proud and contrasts with her mother and self when mute who are construed in the latter terms.

The distance of Holly's construing of her self when speaking and ideal self are closer to the origin of the plot, which indicates that she has a less elaborated view of herself when speaking and ideal self than she does of her self when mute. Holly's construing of herself when speaking is closely related to how she construes her ideal self and are in the opposite quadrant to her self when mute.

Element Statistics

i. *Distances between Elements*

The relative distance of the ideal self from the self when speaking (0.28) and self when mute (1.70) indicates that the self when speaking is construed as more similar to the ideal self than the self when mute.

The average distance of the self-speaking element from the non-self elements is 0.82. The average distance of the self when mute element from the non-self elements is 0.87. This indicates that Holly sees her self when mute as more different to other people compared to her self when speaking.

ii. *Salience (Meaningfulness)*

The percentage sum of squares for the self when mute is 18.52 compared to that for the self speaking which is 10.37 which indicates that the self when mute is more salient to Holly than her speaking self.

Construct Statistics

i. *Superordinacy*

For Holly, the average percentage sum of squares for the self when speaking is 10.58 compared to 9.41 for the self when mute constructs. This indicates that constructs in Holly's 'speaking subsystem' are more superordinate than those in her 'mute subsystem'.

ii. *Intensity*

The intensity score of the speaking subsystem is 0.85 and is greater than the intensity score of the mute subsystem which is 0.68. This indicates that, for Holly, her speaking subsystem is more structured than the mute subsystem.

3.3.3.4. Conflict Analysis

Table 9 shows the percentage of conflict for Holly's 'self' elements and mean conflict scores for self when speaking and self when mute. Holly's scores suggest that she has more conflict associated with her mute self than with her speaking self or ideal self. Conversely, her scores suggest there are more conflicts associated with constructs attributed to her self when speaking than her self when mute constructs.

Table 9 – Conflict scores for self elements and mean conflict scores for constructs

Element	% conflict score attributable to elements	Mean % conflict score attributable to constructs
Self speaking	12.0	11.04
Self mute	13.8	9
Ideal self	6.6	-

3.3.3.5. Summary of Holly's Results

1. Experience Cycle Methodology

The results according to Holly's ECM found that her experience of speaking supported the Oades & Viney (2000) research in that she successfully completed a cycle and revised her construing in response to invalidation.

2. ABC Technique

Holly's ABC indicated that she considers people who speak to be impolite and considers non-speaking to be associated with being considered a good listener. These implications of not speaking may be preventing Holly from engaging in speaking experiences. However, Holly also states that speaking enables a person to build relationships and implies that speaking prevents loss of confidence and depression.

3. Repertory Grid

Holly's scores indicate that she has a tight construing system, which may lead to greater invalidation. Kelly (1955; p849) stated that "*if construing is tight, one runs the risk of being shattered on the uncompromising rocks of reality*". She perceives her self when mute as far from her ideal, unlike her self when speaking. However, she sees her self when mute more clearly than her self when speaking.

Holly has more conflict associated with her self when mute than when speaking but somewhat more conflict in her speaking subsystem than in her mute subsystem.

3.3.4. Case Study Four: Rachel

3.3.4.1. Experience Cycle Methodology

Rachel's responses to the Experience Cycle Questions are presented in Table 10.

Table 10. Category Groupings of Experience Cycle Methodology Data

Phase	Category Grouping	Quote/Evidence
Anticipation Phase	Tight Prediction	"I thought my mother would be proud and my friend would be happy that I was speaking to her"
Investment Phase	High Investment	"It meant so much because it means that slowly, slowly I'm overcoming this fear"
(Dis)Confirmation Phase	Invalidation	"I thought I'd end up not saying anything, sitting there helplessly in tears"
Construct Revision	Minimal Revision	"Not as scary as I think, although it is still scary"

3.3.4.2. ABC Technique (Tschudi, 1977)

Presented in Figure 9 are the advantages and disadvantages of speaking and not speaking for Rachel. A1 and A2 are Rachel's problematic position (symptom of selective mutism) and her desired position. The B1 and B2 positions identify the possible reasons for change. However, C2 and C1 are factors that make speaking difficult for Rachel, namely, she has concerns about being heard by others and concerns about making the wrong impression.

A1	Not Speaking	A2	Speaking
Preferred?			X
B1	Disadvantage of not speaking	B2	Advantage of speaking
	Writing is very hard. I use up so much paper!		People get to know what's on my mind.
C2	Advantage of not speaking	C1	Disadvantage of speaking
	People won't get the wrong impression.		People hearing me speak. I don't want people to hear me.

Figure 9. ABC technique depicting the advantage and disadvantage of speaking for Rachel.

3.3.4.3. Repertory Grid Data

Principal Component Analysis

Figure 10 is a plot of the loadings of elements and constructs on the first two components from the principal component analysis of Rachel's grid. It represents Rachel's construing of her self and non-self related elements in construct space.

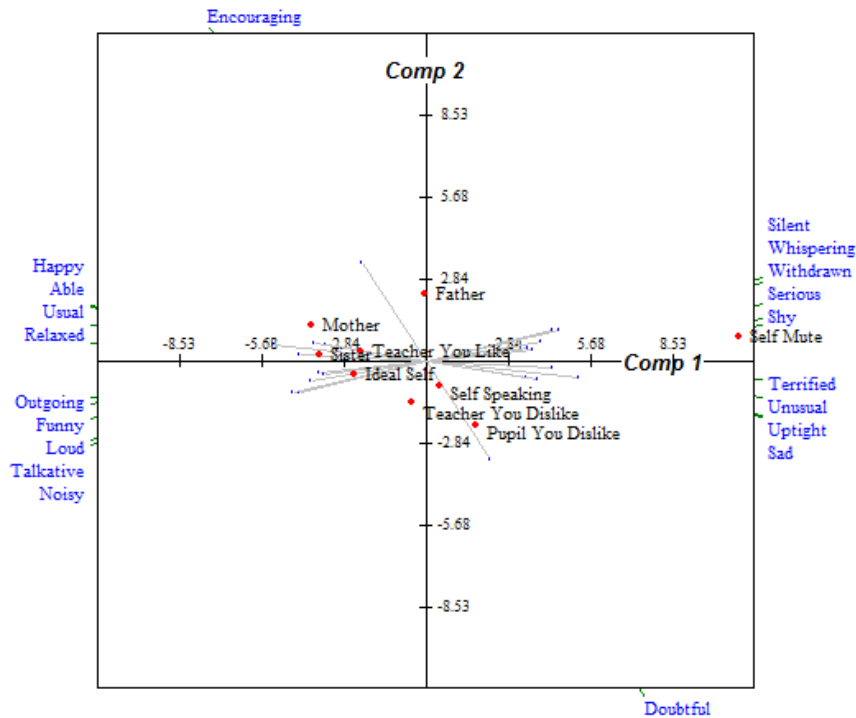


Figure 10. Plot of elements in construct space

The first component, which accounts for 83.86% of the variance, contrasts people who are usual, talkative and outgoing with people who are unusual, whispering and shy.

Rachel's mother and sister are both construed in the former terms and contrasted with self when mute who is construed in the latter terms (i.e., unusual, whispering and shy).

The second component, which accounts for 8.32% of the variance, contrasts people who are noisy and talkative with people who are silent and whispering but also people who are encouraging.

Rachel construes the teacher and pupil she dislikes in the former terms and her father is construed in the latter terms. Rachel also construes her mother as encouraging.

The when speaking and ideal self are closer to the origin of the plot than the self when mute, which indicates that she has a less elaborated view of herself when speaking and as her ideal than she does of her self when mute.

Element Statistics

i. *Distances between Elements*

The relative distance of the ideal self from the self when speaking (0.54) and self when mute (1.94) indicates that, for Rachel, the self when speaking is construed as more similar to the ideal self than the self when mute.

The average distance of the self-speaking element from the non-self elements is 0.54. The average distance of the self when mute element from the non-self elements is 1.80. This indicates that Rachel sees her self when mute as more different to other people compared to her self when speaking.

ii. *Salience (Meaningfulness)*

The percentage sum of squares for the self when mute is 61.32 compared to that for the self speaking, which is 1.63 which indicates that the self when mute is more salient to Rachel than her speaking self.

Construct Statistics

i. *Superordinacy*

For Rachel, the average percentage sum of squares for the self when speaking is 9.62 compared to 10.38 for the self when mute constructs. This indicates that constructs in Rachel's 'mute subsystem' are more superordinate than those in her 'speaking subsystem'.

ii. *Intensity*

The intensity score of the mute subsystem is 0.71 and is greater than the intensity score of the speaking subsystem which is 0.55. This indicates that, for Rachel, her mute subsystem is more structured than the speaking subsystem.

3.3.4.4. Conflict Analysis

Table 11 shows the percentage of conflict for Rachel's 'self' elements and mean conflict scores for self when speaking and self when mute. Rachel's scores suggest that she has more conflict associated with her mute self than with her speaking self or ideal self. Furthermore, her scores suggest there are more conflicts associated with construing attributed to her self when mute than her self when speaking constructs.

Table 11 – Conflict scores for self elements and mean conflict scores for constructs

Element	% conflict score attributable to elements	Mean % conflict score attributable to constructs
Self speaking	10.1	9.94
Self mute	14.8	10.08
Ideal self	8.1	-

3.3.4.5. Summary of Rachel's Results

1. Experience Cycle Methodology

Rachel's ECM outcome found that tight prediction, high investment and invalidation led to only minimal revision.

2. ABC Technique

Rachel's ABC Technique indicated that the negative implications of speaking are that she does not like others hearing her speak. However, she states that a positive implication of speaking are that others get to know what's on her mind, although she has concerns that they may get the wrong impression of her.

3. Repertory Grid

Rachel's scores indicate that she has a tight construing system, which means her way of viewing the world is undifferentiated. She perceives her self when mute as further away from her ideal self and more different from others than her self when speaking. She has a much clearer view of her self when mute than when speaking. The constructs in her mute subsystem are more structured, enabling her to make more predictions about her world, than those in her speaking subsystem.

Rachel has more conflicts associated with her self when mute than her self when speaking but there was little difference in the level of conflict in her mute subsystem and speaking subsystems.

3.3.5. Case Study Five: Emily

3.3.5.1. Experience Cycle Methodology

Emily's responses to the Experience Cycle Questions are presented in Table 12.

Table 12. Category Groupings of Experience Cycle Methodology Data

Phase	Category Grouping	Quote/Evidence
Anticipation Phase	Loose Prediction	"I don't know....it might have shocked them if they heard me talk, and it might have drawn attention to me"
Investment Phase	High Investment	[It mattered..] "alot".
(Dis)Confirmation Phase	Invalidation	"....completely different! They just responded normally and carried on with everything"
Construct Revision	Significant Revision	"those particular girls are prepared to accept me whether I speak or not...I should feel fine speaking around them because of how they responded to me; they won't be shocked or question me loads, or judge me...they'll just get on as normal"

3.3.5.2. ABC Technique (Tschudi, 1977)

Presented in Figure 11 are the advantages and disadvantages of speaking and not speaking for Emily. A1 and A2 are Emily's problematic position (symptom of selective mutism) and her desired position. The B1 and B2 positions identify the possible reasons for change. Emily states that there aren't any reasons for not speaking. However, C2 and C1 are factors that make speaking difficult for Emily in that there is an implied disadvantage in that she will feel less safe and comfortable.

A1	Not Speaking	A2	Speaking
Preferred?			X
B1	Disadvantage of not speaking	B2	Advantage of speaking
	Lonely, isolated...basically everything that is wrong in my life! Haha!		Everything! Being able to show people you DO want to be friends with them, showing them I'm not just quiet and I can talk, showing them I want to talk and join in, showing them I am capable of it, feeling better about myself, feeling more positive afterwards, being pleased with myself, thinking 'yes' I can do it, feeling proud.
C2	Advantage of not speaking	C1	Disadvantage of speaking
	I guess I feel safer or more comfortable		There aren't any

Figure 11. ABC technique depicting the advantages and disadvantages of speaking for Emily.

3.3.5.3. Repertory Grid Data

Principal Component Analysis

Figure 12 is a plot of the loadings of elements and constructs on the first two components from the principal component analysis of Emily's grid. It represents Emily's construing of her self and non-self related elements in construct space.

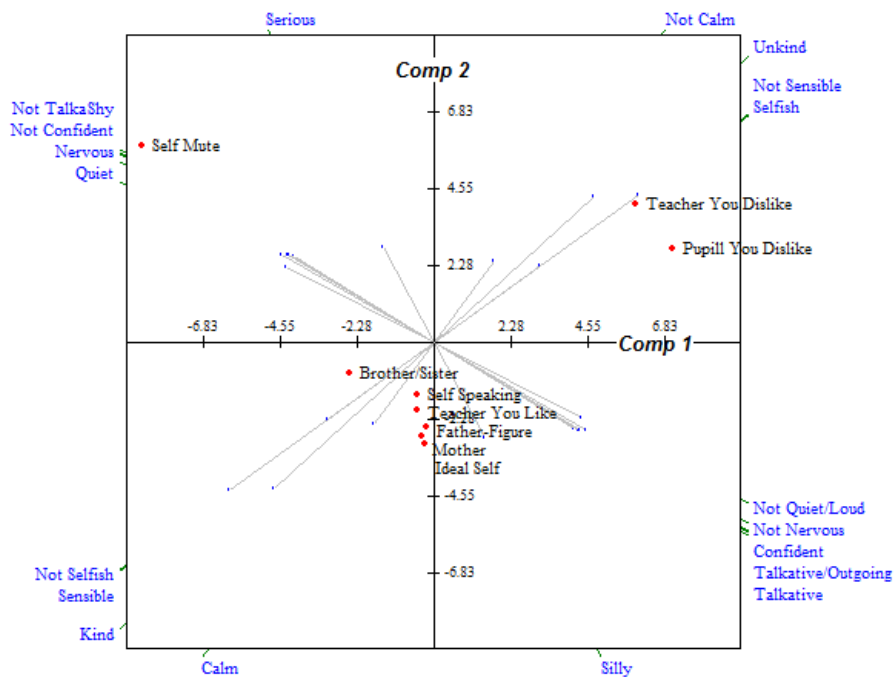


Figure 12. Plot of elements in construct space

The first component, which accounts for 61.64% of the variance, contrasts people who are not selfish and kind with people who selfish and unkind, but also with people who are not nervous, loud, confident and outgoing.

Emily construes her self when mute in the former terms and this is contrasted with the pupil and teacher she dislikes who are construed as selfish and unkind.

The second component, which accounts for 32.50% of the variance, contrasts people who are not selfish, kind, silly, confident and outgoing with people who are selfish, unkind, serious, not confident and shy.

Emily construes her ideal self in the former terms and this contrasts with the pupil and teacher she dislikes and her self when mute who are construed in the latter terms.

The self when speaking and ideal self are closer to the origin of the plot than the self when mute, which indicates that she has a less elaborated view of herself when speaking and as her ideal than she does of her self when mute.

Element Statistics

i. *Distances between Elements*

The relative distance of the ideal self from the self when speaking (0.36) and self when mute (1.49) indicates that Emily construes the self when speaking as more similar to the ideal self than the self when mute.

The average distance of the self-speaking element from the non-self elements is 0.55. The average distance of the self when mute element from the non-self elements is 1.53. This indicates that Emily sees her self when mute as more different to other people compared to her self when speaking.

ii. *Salience (Meaningfulness)*

The percentage sum of squares for the self when mute is 40.16 compared to the self speaking which is 1.72, which indicates that the self when mute is more salient to Emily than her self when speaking.

Construct Statistics

i. *Superordinacy*

For Emily, the average percentage sum of squares for the self when speaking is 9.23 compared to 10.77 for the self when mute constructs. This indicates that constructs in Emily's 'mute subsystem' are more superordinate than those in her 'speaking subsystem'.

ii. *Intensity*

The intensity score of the mute subsystem is 0.39 which is greater than the intensity score of the speaking subsystem which is 0.29. This indicates that Emily's mute subsystem is more structured than the speaking subsystem.

3.3.5.4. Conflict Analysis

Table 13 shows the percentage of conflict for Emily's 'self' elements and mean conflict scores for self when speaking and self when mute. Emily's scores suggest that she has more conflict associated with her ideal self than with her speaking self or mute self. Her scores suggest there are more conflicts associated with construing attributed to her self when speaking than her self when mute.

Table 13 – Conflict scores for self elements and mean conflict scores for constructs

Element	% conflict score attributable to elements	Mean % conflict score attributable to constructs
Self speaking	11.8	10.34
Self mute	9.6	9.68
Ideal self	15.5	-

3.3.5.5. Summary of Emily's Results

1. Experience Cycle Methodology

Emily's ECM did not support the Oades & Viney (2000) research in that she made a loose prediction yet made significant revision to her constructs following high investment and invalidation.

2. ABC Technique

The outcome of Emily's ABC Technique implied that she finds speaking to be unsafe and uncomfortable, and would like to speak in order that she can "feel better" about herself and more positive. Not speaking, for Emily, leaves her feeling isolated.

3. Repertory Grid

Emily's scores indicate that she perceives her self when mute as further from her ideal and more different to others than her self when speaking. Her scores also show that she has a clearer view of her self when mute than her self when speaking. Her mute subsystem enables greater prediction than her speaking subsystem. Emily's conflict analysis revealed that she has somewhat more conflicts in construing associated with speaking than with being mute.

3.3.6. Case Study Six: Mary

3.3.6.1. Experience Cycle Methodology

Mary's responses to the Experience Cycle Questions are presented in Table 14.

Table 14. Category Groupings of Experience Cycle Methodology Data

Phase	Category Grouping	Quote/Evidence
Anticipation Phase	Tight Prediction	"...just that I would be extremely nervous and may appear that way to others"
Investment Phase	Low Investment	"it didn't matter too much to me at the time"
(Dis)Confirmation Phase	Validation	"I thought...that they were noticing my anxiety and laughing to themselves in their head"
Construct Revision	Minimal Revision	"I felt a little proud but not fully because I felt that I looked and sounded stupid"

3.3.6.2. ABC Technique (Tschudi, 1977)

Presented in Figure 13 are the advantages and disadvantages of speaking and not speaking for Mary. A1 and A2 are Mary's problematic position (symptom of selective mutism) and her desired position. The B1 and B2 positions identify the possible reasons for change. C2 and C1 are factors that may prevent change for Mary in that she has a fear that she might appear stupid, overly opinionated or aggressive.

A1	Not Speaking	A2	Speaking
Preferred?			X
B1	Disadvantage of not speaking	B2	Advantage of speaking
	I'm very observant and creative but I can't say what I'm thinking or feeling.		I can express opinions and contribute to conversations. I can also express myself and what I want or need.
C2	Advantage of not speaking	C1	Disadvantage of speaking
	I won't cause any trouble.		I might say something stupid or sound overly opinionated or aggressive.

Figure 13. ABC technique depicting the advantage and disadvantage of speaking for Mary.

3.3.6.3. Repertory Grid Data

Principal Component Analysis

Figure 14 is a plot of the loadings of elements and constructs on the first two components from the principal component analysis of Mary's grid. It represents Mary's construing of her self and non-self related elements in construct space.

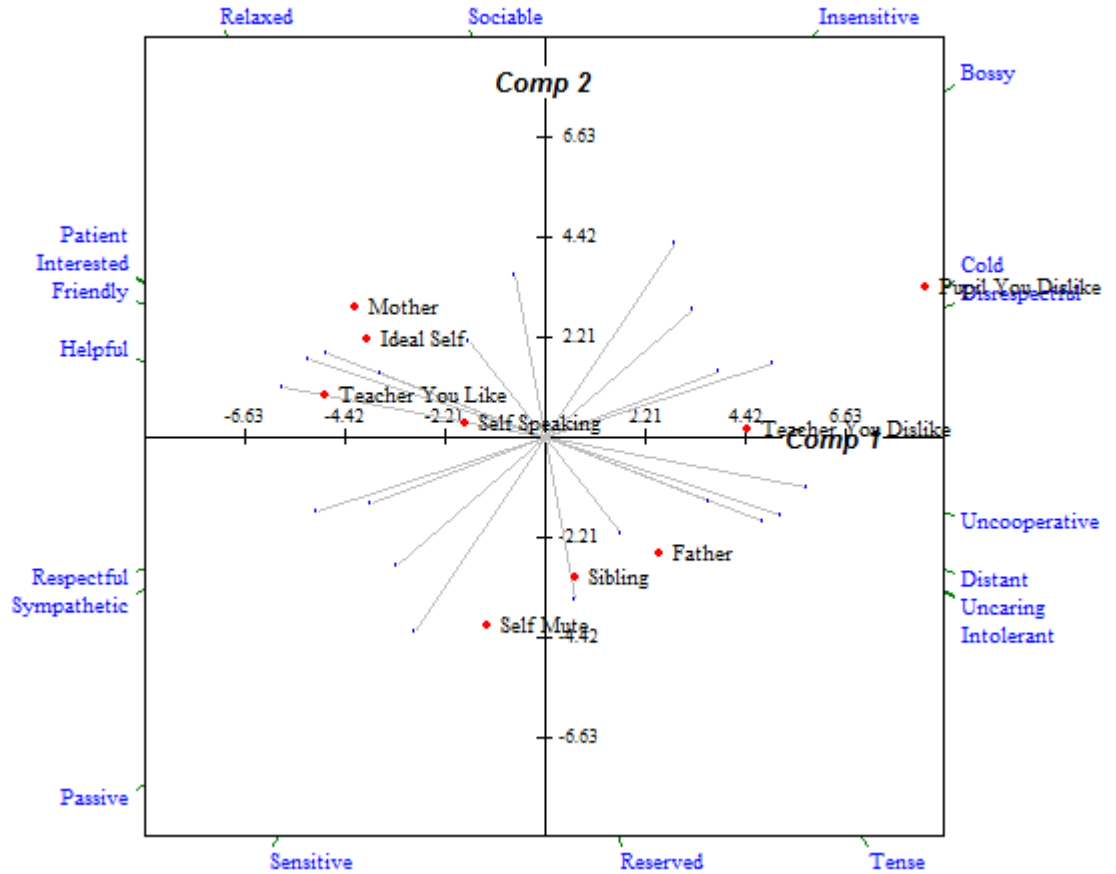


Figure 14. Plot of elements in construct space

The first component, which accounts for 53.18% of the variance, contrasts people who are helpful, friendly and respectful with people who are uncooperative, distant and disrespectful.

Mary construes the teacher she likes, her mother and her ideal self in the former terms and this contrasts with the pupil she dislikes who is construed in the latter terms.

The second component, which accounts for 19.50% of the variance, contrasts people who are sensitive with people who are insensitive but also with people who are sociable.

Mary construes her self when mute and her sibling in the former terms and this contrasts with the pupil she dislikes who is construed in the latter terms.

The distance of Mary's construing of her self when speaking and ideal self are closer to the origin of the plot, which indicates that she has a less elaborated view of herself when speaking and ideal self than she does of her self when mute.

Element Statistics

i. *Distances between Elements*

The relative distance of the ideal self from the self when speaking (0.58) and self when mute (0.96) indicates that Mary construes the self when speaking as more similar to the ideal self than the self when mute.

The average distance of the self-speaking element from the non-self elements is 0.88. The average distance of the self when mute element from the non-self elements is 0.96. This indicates that Mary sees her self when mute as more different to other people compared to her self when speaking.

ii. *Salience (Meaningfulness)*

The percentage sum of squares for the self when mute is 11.46 compared to that for the self speaking which is 6.11. This indicates that the self when mute is more salient to Mary than her self when speaking.

Construct Statistics

i. *Superordinacy*

For Mary, the average percentage sum of squares for the self when speaking is 10.38 compared to 9.62 for the self when mute constructs. This indicates that constructs in Mary's 'speaking subsystem' are more superordinate than those in her 'mute subsystem'.

ii. *Intensity*

The intensity score of the speaking subsystem is greater than the intensity score of the mute subsystem which indicates that Mary's speaking subsystem is more structured than the mute subsystem (speaking=0.30, mute=0.16).

3.3.6.4. Conflict Analysis

Table 15 shows the percentage of conflict for Mary's 'self' elements and mean conflict scores for self when speaking and self when mute. Mary's scores suggest that she has more conflict associated with her mute self than with her speaking self or ideal self. In addition, her scores suggest there are more conflicts associated with construing attributed to her self when mute than her self when speaking.

Table 15 – Conflict scores for self elements and mean conflict scores for constructs

Element	% conflict score attributable to elements	Mean % conflict score attributable to constructs
Self speaking	9.1	9.62
Self mute	21.7	10.32
Ideal self	3.5	-

3.3.6.5. Summary of Mary's Results

1. Experience Cycle Methodology

Mary's ECM results found support for the Oades & Viney (2000) research. Her experience of speaking did not lead to invalidation or revision of her constructs.

2. ABC Technique

Mary's ABC Technique found that factors preventing her from speaking are her concerns that she might sound overly opinionated or aggressive. However, she describes how speaking enables her to express her wants and needs.

3. Repertory Grid

Mary's scores indicate that she perceives her self when mute as further from her ideal self and more different from others than her self when speaking. She has a clearer view of her self when mute than her self when speaking. However, her speaking subsystem is more structured than her mute subsystem, better enabling her to make predictions about her world.

The conflict analysis revealed that Mary has greater inconsistency in her construing concerning being mute than speaking.

3.3.7. Summary of Individual Statistics

Table 16 below shows the element and construct statistics for each individual participant's repertory grid scores. The percentage of variance on the first principal component indicates tight construing for both Holly and Rachel. Holly's intensity score indicates tighter construing in her speaking subsystem than her mute subsystem. This is the same for Louise and Mary. Rachel, Abbie and Emily, on the other hand, have tighter construing in their mute subsystem. All participants, apart from Abbie, in this sample perceive themselves when mute as more different to others than they do when speaking. All participants, except for Abbie, have higher salience scores in their mute subsystem than speaking subsystem which indicates that this is more meaningful for them.

Table 16. Summary table showing individual statistics

	Louise	Abbie	Holly	Rachel	Emily	Mary
% Variance PC_1	61.27%	50.93%	93.13%	83.86%	61.64%	53.18%
% Variance PC_2	28.46%	38.35%	3.15%	8.32%	32.50%	19.50%
Distance of self when speaking from ideal self (Element Euclidean Distances)	0.47	1.13	0.28	0.54	0.36	0.58
Distance of self when mute from ideal self (Element Euclidean Distances)	1.47	0.45	1.70	1.94	1.49	0.96
Average distance of self speaking from non-self elements	0.7	1.51	0.82	0.54	0.55	0.88
Average distance of self mute from non-self elements	1.17	0.75	0.87	1.80	1.53	1
% sum of squares (salience) – self speaking	2.85	36.26	10.37	1.63	1.72	6.11
% sum of squares (salience) – self mute	21.52	3.91	18.52	61.32	40.16	11.46
Superordinacy – self speaking	10.54	8.13	10.58	9.62	9.23	10.38
Superordinacy – self mute	9.45	11.87	9.41	10.38	10.77	9.62
Intensity – self speaking	0.49	0.37	0.85	0.55	0.29	0.30
Intensity – self mute	0.38	0.46	0.68	0.71	0.39	0.16

3.4. Group Results

3.4.1. Content Analysis of Group Repertory Grid Constructs

Overall inter-rater reliability percentage agreement for content analysis of repertory grid constructs was 53%. Table 17 shows the frequency and percentages of the elicited constructs as categorised using the Classification System for Personal Constructs (CSPC) (Feixas, Geldschlager and Neimeyer, 2002). Of the 45 categories, 22 best described the content of the group's grid constructs. The most frequent category was 'Extroverted-Introverted', followed by 'Balanced-Unbalanced'. The area most represented by the group's constructs were 'Personal', which are related to individual characteristics.

Table 17 – Table showing category frequencies of participants' grid constructs

Area	Category	Frequency	Percentage
Relational	Extroverted-Introverted	12	20%
Emotional	Balanced-Unbalanced	9	15%
Emotional	Warm-Cold	5	8.33%
Personal	Self-Acceptance-Self-Criticism	3	5%
Relational	Pleasant-Unpleasant	3	5%
Moral	Altruist-Egoist	2	3.33%
Moral	Humble-Proud	2	3.33%
Emotional	Optimist-Pessimist	2	3.33%
Emotional	Specific Emotions	2	3.33%
Relational	Tolerant-Authoritarian	2	3.33%
Relational	Sympathetic-Unsympathetic	2	3.33%
Personal	Flexible-Rigid	2	3.33%
Personal	Thoughtful-Shallow	2	3.33%
Personal	Mature-Immature	2	3.33%
Intellectual-Operational	Intelligent-Dull	2	3.33%
Intellectual-Operational	Cultured-Uncultured	2	3.33%
Moral	Respectful-Judgmental	1	1.67%
Relational	Peaceable-Aggressive	1	1.67%
Personal	Strong-Weak	1	1.67%
Personal	Hard-working-Lazy	1	1.67%
Personal	Other	1	1.67%
Personal	Focused-Unfocused	1	1.67%
Totals	22 Categories	60 constructs	

Table 18 is a content analysis of the participants' constructs elicited from the triads including the "self when speaking", using the CSPC categories (Feixas, Geldschlager and Neimeyer, 2002). Almost 16% of the constructs elicited using the 'self when speaking' triad fell in the 'Balanced-Unbalanced' category with the same percentage in the 'Extroverted-Introverted' category. The majority of constructs elicited with the 'self when speaking' triad fell in the 'Relational' area of the categorisation.

Table 18 – Table showing category frequencies of constructs elicited using triads including 'self when speaking'

Area	Category	Frequency	Percentage
Emotional	Balanced-Unbalanced	3	15.79%
Relational	Extroverted-Introverted	3	15.79%
Moral	Humble-Proud	2	10.53%
Emotional	Specific Emotions	2	10.53%
Relational	Tolerant-Authoritarian	2	10.53%
Relational	Sympathetic-Unsympathetic	2	10.53%
Personal	Thoughtful-Shallow	2	10.53%
Personal	Mature-Immature	2	10.53%
Intellectual-Operational	Intelligent-Dull	2	10.53%
Moral	Altruist-Egoist	1	5.26%
Emotional	Warm-Cold	1	5.26%
Emotional	Optimist-Pessimist	1	5.26%
Relational	Pleasant-Unpleasant	1	5.26%
Relational	Peaceable-Aggressive	1	5.26%
Personal	Strong-Weak	1	5.26%
Personal	Flexible-Rigid	1	5.26%
Intellectual-Operational	Cultured-Uncultured	1	5.26%
Intellectual-Operational	Focused-Unfocused	1	5.26%
Totals	19 Categories	30 constructs	

Presented in Table 19 are the CSPC categories (Feixas, Geldschlager and Neimeyer, 2002) which related to the participants' constructs elicited using triads including the "self when mute". The greatest percentage of constructs elicited using the 'self when mute' triad fell in the 'Extroverted-Introverted' category, followed by 20% of constructs falling in the 'Balanced-Unbalanced' category. Most constructs fell in the 'Personal' area of the categorisation.

Table 19 – Table showing category frequencies of constructs elicited using triads including 'self when mute'

Area	Category	Frequency	Percentage
Relational	Extroverted-Introverted	9	30%
Emotional	Balanced-Unbalanced	6	20%
Emotional	Warm-Cold	4	13.33%
Relational	Pleasant-Unpleasant	2	6.67%
Personal	Self-acceptance-Self-criticism	2	6.67%
Moral	Altruist-Egoist	1	3.33%
Moral	Respectful-Judgemental	1	3.33%
Emotional	Optimist-Pessimist	1	3.33%
Personal	Hard working-Lazy	1	3.33%
Personal	Flexible-Rigid	1	3.33%
Personal	Other	1	3.33%
Intellectual-Operational	Cultured-Uncultured	1	3.33%
Totals	12 Categories	30 constructs	

If I Don't Speak

If I don't call, it's not because I don't care.
If I don't say hello as you pass by, it's not because I have no manners.
If I don't speak when I walk into work, it's not because I'm rude.
If I don't look you straight in the eye while you speak to me, it's not because I'm disrespectful.
If I barely speak to you, it's not because I don't like you.
If I don't hang out with you, it's not because I think I'm better than you.
If I don't show up to your party, it's not because I don't care about you.
If I don't give my speech or raise my hand in class, it's not because I'm a lazy student.
If I don't ask the clerk for what I want, it's not because I just don't want to be bothered.
If I don't correct the waitress or cashier on my order, it's not because I've decided to try something new.
If I don't speak, trust me, it's not because I don't want to.
If I don't speak it's because of Selective Mutism.

(poem posted on social networking site)

4. Discussion

4.1. Main Findings

In this section, the main findings of the research will be discussed in relation to the original research questions. Consideration will also be given to the possible clinical implications of the findings. The limitations of the study will be addressed as well as potential future research in light of this study's findings.

4.1.1. Research Questions

The aim of this study was to consider and extend previous research by Omdal and Galloway (2007) and Omdal (2007) by exploring selective mutism using a Personal Construct Psychology (PCP) approach. Furthermore, in light of previous research by Fransella (1972) who found PCP to be a useful tool in understanding stuttering, the current study posed the following research questions, which will now be addressed in turn. Caution should be used when interpreting the differences between scores in view of the possibility of measurement error.

How do adolescents with selective mutism construe others and themselves when speaking, when mute and compared to their ideal?

Using Feixas, Geldschlager and Neimeyer's (2002) Classification System for Personal Constructs (CSPC), to analyse the content of the group's constructs, results indicated that just under a half (47.37%) fell in the relational area, with 15.79% falling in the 'extroverted-introverted' category (e.g. 'whispering', 'withdrawn', 'not talkative' as opposed to 'talkative, 'loud', 'talkative'). Just over a third (36.84%) of the constructs in their 'speaking subsystem' are in the emotional area, with 15.79% falling in the 'balanced-unbalanced' category (e.g. 'terrified', 'uptight', 'uncomfortable' as opposed to 'relaxed', 'calm', 'content'). Just over a third of the group's construing elicited using the self when mute element fell in the emotional and relational areas (36.67% each), with 30% of constructs falling in the category 'extroverted-introverted' (e.g. 'quiet', 'shy', 'silent' as opposed to 'loud', 'outgoing', 'noisy') followed by 20% of their constructs falling in the emotional area 'balanced-unbalanced' (e.g. 'not calm', 'anxious', 'tense' as opposed to 'calm', 'composed', 'relaxed'). These results indicate that these participants' constructs when speaking are dominated by relational constructs and when mute are dominated by both emotional and relational constructs.

Identification of the self in personal construct terms is defined by the perceived similarity (or difference) between the self and others (Adams and Adams-Webber, 1992). Norris and Makhoul-Norris (1976, cited in Cipolletta, 2011) state that the discrepancy between self construing and construing of others indicates the level of interpersonal isolation. They go on to state that an individual who sees themselves as separate "will not share thoughts, feelings or behaviour with others" (Cipolletta, 2011; p125). Therefore, poor interpersonal relationships tend to go hand in hand with people who construe themselves as different to others. In her study, Cipolletta (2011) states that self-acceptance is identified by the distance between the present self and the ideal self and social negativity represented by distance between the ideal self and other elements.

The distances between elements for the current participants enabled consideration of individual construing of the ideal self, self when mute and self when speaking and in relation to others. The outcome was that five of the participants construed themselves when speaking as similar to their ideal self. This means that speaking

may be idealised and unrealistic. These results reflect similar findings to other client groups who showed the 'if only' syndrome (Fransella, 1972). In particular, Fransella (1972) found in her research on stutterers they believed that 'if only' they did not stutter, they would be able to be the life and soul of the party or be a great success, etc. However, evidence found that the implications of fluency for stutterers made change very difficult. In the current study, the ABC technique enabled some understanding of the implications for speaking, which will be discussed further later in this section.

The discrepancy between construing of the mute self and ideal indicates that participants' level of self-acceptance and, accordingly, their self-esteem may be low. With regard to the level of interpersonal isolation, these participants construed themselves when mute as more different from others than the self when speaking, which Cipolletta (2011) suggests may be instrumental in maintaining low self-esteem and self-acceptance. Furthermore, she suggests that the further the distance of the self from other elements, the less the possibility of adopting alternative self-constructions. This means that the level of interpersonal isolation for the participants in the current sample may perpetuate their self identities as mute and different from others. This finding supports the earlier research by Omdal (2007), who described a sense of loneliness and isolation in her sample. In addition, the adoption of 'self as mute' identity supports Omdal's (2007) research in which her participants stated that being selectively mute became a well-defined social role.

The one member of the sample who did not show this outcome was Abbie who construed her self when mute as similar to her ideal. This indicates that Abbie has a higher level of self-esteem and self-acceptance when selectively mute than the other participants. Furthermore, Abbie's results show that she sees her self when speaking as more different from others as opposed to her self when mute. This outcome may be understood by the context of Abbie's selective mutism. She has had selective mutism since early childhood and has made considerable attempts to make sense of her experience. Furthermore, she provides support for others through various support networks on a social networking site. As such, she has formed thousands of contacts with other people with selective mutism. Howard (1991) describes how a person's 'culture' may permeate their story of 'self', which facilitates a creation of meaning. Therefore, it may be that Abbie's sense of self as mute has been validated by the sub-culture in which she thrives.

How can the participants' mutism be understood as an informed choice in light of the alternatives?

Kelly's Choice Corollary (Kelly, 1955; p64) states that "a person chooses for himself that alternative...through which he anticipates the greater possibility for extension and definition of his system". Similarly, Neimeyer (1987, p8) described: "the individual....will make what she regards as an *elaborative choice* that optimises the anticipatory potential of her system". In line with this thinking, it might be hypothesised that remaining mute allows the individual to make predictions about others and their environment.

The findings in the current study indicate that Louise, Holly and Mary have high intensity scores relating to the 'speaking' subsystems. Contrarily, Abbie, Rachel and Emily's scores indicate high intensity with regard to the 'mute' subsystems. This would indicate that for Abbie, Rachel and Emily, their mute subsystems are well structured. Therefore, their mutism may be regarded as an *elaborative choice* as it enables maximum predictive potential. This is in contrast to Louise, Holly and Mary, who have more structured speaking subsystems. In line with Personal Construct Theory, this should mean that Louise, Holly and Mary's speaking subsystems have more anticipatory potential. At first glance, this would mean that they would be *more* likely to choose to speak than remain mute. However, the results indicate possible reasons as to why Louise, Holly and Mary remain selectively mute. Both Louise and Holly have more conflict in their construing associated with speaking than when mute, which may result in ambivalence in their speaking subsystems. Furthermore, the percentage of variance on the first principal component for Holly indicates excessively tight construing which would be likely to make her very resistant to change (Winter, 1992).

The outcome for Mary is more complex in that she has cognitive conflicts in her mute subsystem. However, exploration of her raw grid data indicates that she has more mid-point ratings associated with self when speaking, which indicates that her speaking self is not very meaningful to her. In addition, the entire group, except for Abbie, have scores that indicate greater meaningfulness (salience) of the self when mute as opposed to the self when speaking subsystem, which may also be a contributing factor as to why mutism may be chosen rather than speaking. This outcome reflects Fransella's (1972) work on stutterers wherein she found that the

participants in her sample stutter as this is a more meaningful way of life for them. The meaningfulness of speaking for Abbie may be understood as she recently expanded the people with whom she will speak. She explained that this was a 'conscious choice' wherein she wanted to begin speaking with people outside of the home. Abbie's experience of speaking supports Omdal's (2007) research findings regarding recovery from selective mutism.

What purpose might being mute serve for individuals with selective mutism?

Leitner (1987; p42) described how in personal construct therapy terms, symptoms are viewed as "inventions made to protect...[a person]...from potential devastation". The nature of individual struggles can be conceptualised in role relationships as described in the sociality corollary (Fransella, 2005). Leitner (1987; p39) argues that in a role relationship, "we risk our most important constructs as we struggle to understand one another in most fundamental ways" as we are threatened with possible invalidation. Furthermore, if role relationships are too threatening, it may be that the only option is to retreat from them, whether it is verbally or physically.

In her work with stutterers, Fransella (1972) found that being a stutterer was a strategy for coping with this type of situation. She found that stuttering enabled her participants to make predictions about their role relationships whereas they were unable to interpret subtle forms of communication as a fluent person. Being a stutterer was a more meaningful role relationship in that it meant that they could predict how the other person would react to them.

In the current study, the participants all scored in the moderate to severe range on anxiety measures. Using Personal Construct Theory to interpret this finding, we might hypothesise that anxiety is experienced as a result of not having sufficient structure with which to deal with a situation (Kelly, 1955; p499). If this is the case, then it would be expected that the participants in this study would have insufficient structure of their speaking subsystem. As mentioned in the previous section, this is the case for three of the sample, while in five of them the self when mute is more salient and, therefore, perhaps provides a firmer basis for prediction than the self when speaking.

Results found using the ABC Technique (Tschudi, 1977) may also provide answers as to one possible purpose that mutism serves for the participants. The ABC Technique outlines possible implications that may make speaking difficult. These include:

1. Difficulties with being sociable:

Louise: “there is pressure to keep up the higher level of social interaction which tires me out”

2. Difficulties with prediction:

Abbie: “not enough closure about what will happen the next time, frequent panic attacks”

3. Moral implications:

Holly: “if you are speaking, you listen less and could be considered impolite”

Mary: “ might say something stupid or sound overly opinionated or aggressive”

4. Being heard by others:

Rachel: “people hearing me speak. I don’t want people to hear me”

Emily: “there aren’t any” [disadvantages of speaking], although she implies that speaking makes her feel unsafe and uncomfortable.

These themes would suggest that the situation being managed by mutism is the threat of invalidation. As mentioned in the Introduction, Kellyan ‘threat’ arises when a person recognises the need to change more superordinate ‘core self’ constructs. Repertory grid results indicate that Abbie, Rachel and Emily display more superordinate constructs associated with their mute subsystem, and the group’s scores for salience (apart from Abbie) indicate that their mute subsystems are meaningful to them. These findings may be explained in personal construct terms. A strategy for managing the threat to core role construing might be Kellyan hostility. In personal construct terms, this is the “continued effort to extort validation evidence in favour of a type of social prediction which has already been recognised

as a failure” (Kelly, 1955; cited in Fransella, 2005; p22). In selective mutism, therefore, ‘hostility’ may be a method of avoiding the problem of invalidation, i.e. forcing the environment to fit with their ‘silent’ constructs, rather than revising their constructs to fit with a speaking environment. This strategy for managing in the face of invalidation can be seen with Holly in her Experience Cycle results. Despite invalidation of her negative anticipations of a speaking experience, Holly remains selectively mute and has since written and published a book to encourage others to understand selective mutism from her perspective.

To summarise, it seems that the anxiety experienced by people with selective mutism when speaking may indicate the threat of invalidation of the core construing concerning the self. Anxiety is the awareness that there are unpredictable implications attached to behaviour. So for people with selective mutism, what will happen if they speak? What will people think of them? Will they think I am aggressive or not very nice (and thus ‘threaten’ my core role construing)? What will the other person do in response to my speaking? etc. One strategy that a person may use for managing anxiety is *constriction*, i.e., withdrawing from an area altogether. For people with selective mutism, this means not speaking at all. It is the safe option and may serve the purpose of helping individuals to cope with threats to core role construing by invalidation from others.

At what stage of the Experience Cycle do adolescents with selective mutism become stuck so that construct revision becomes impossible?

Kelly (1955; p831) stated that “we may define a disorder as any personal construction that is used repeatedly in spite of consistent invalidation”. Neimeyer (1987) goes on to say that the inability to revise construing in the face of invalidation/disconfirmation can be considered the hallmark of psychological disturbance. Therefore, it can be presupposed that people with selective mutism may be stuck in the Experience Cycle with regard to their speaking experiences.

The current sample was requested to think about a recent speaking experience in order to explore this idea further. This indicated that Louise and Rachel appear to be stuck in the Experience Cycle at the ‘constructive revision’ phase of the cycle with regard to the speaking experience that they reported. Both Abbie and Holly appeared to complete a cycle of experience, reporting significant revision. Abbie has

since gone on to begin talking with an increasing number of people outside of her family. Holly, on the other hand continues to be selectively mute, despite her completion of the cycle which indicates that, although there was some constructive revision, there was a lack of any major restructuring of constructs in the face of invalidation. This may be explained as a result of her very tight construing, as indicated by the percentage of variance accounted for by the first principal component of her grid. Alexander and Follette (1987) suggest that if constructs are very tightly organised, they can limit the possible interpretations of an event and, as such, lead to resistance to change following invalidation.

Both Emily and Mary did not complete the Experience Cycle in the method appropriate for restructuring constructs as per Oades and Viney's (2000) research, although Emily did show constructive revision whereas Mary did not. Nonetheless, Emily remains non-speaking in her school environment. Emily's experience did not meet criteria in the anticipation phase whereas Mary's speaking experience was validating for her.

In summary, these results show that Louise, Mary and Rachel were definitely not in accordance with the model and although Emily was, in that she showed constructive revision following invalidation, her predictions were loose. Five of the participants remain non-speaking outside of the home, which provides some support for the idea that they may be 'stuck' in the Experience Cycle. Although Holly and Abbie both met the requirements of the model, only Abbie has increased her verbal communication.

4.2. Clinical Implications of the findings

The results of this study provide some tentative evidence in support of previous research into both selective mutism and the application of the personal construct approach with stutters. The findings of some of the selective mute participants in this study suggest that they may view themselves as different from their ideal self and from others. Therefore, Personal Construct Psychology methods directed at enhancing self-esteem and validation from others may be of value with this group. Kelly's (1995) commonality corollary is key to providing consensual validation for reducing the sense of difference that is fundamental in these issues. However, Alexander and Follette (1987) argue that prolonged and exclusive validation can be unhelpful as it reinforces a person's experience and justifies the continuation of future

behaviour in the same vein. Therefore, they suggest that a second goal of treatment would be the facilitation of sociality in order to clarify and discuss difference as a method for invalidation in a way which will enable reconstruing. Alexander and Follette (1987) achieved these aims through group psychotherapy. It is difficult to consider how this may be achieved with children with selective mutism; however, one way might be to facilitate a group format with families.

Some of the participants in this study appear to have poorly structured and less meaningful 'self as speaking' constructs as per Fransella's (1972) research into stutterers who did not adopt role relationships as described in the sociality corollary. This suggests difficulties with predicting others' responses when engaged in a speaking relationship. Fransella (1972) suggested that treatment should focus on the elaboration of the non-symptom constructs (i.e. the speaking constructs). Elaboration was described by Kelly (1955; cited in Fransella, 1987; p294) as a "way of bringing about reconstruction through clarification.....[and] reorganisation of the hierarchical system". Fransella applied this method of intervention to improve the speaking experiences of stutterers. She found that this approach enabled some articulation. In her therapeutic work with 'Peter', a stuttering client, Fransella (1987, p299) stated that "elaboration of the world of fluency involves focusing on those situations in which the client has been predictably fluent. A prediction means we have, at some level of awareness, construed the situation in a certain way." In clinical terms this usually means drawing on past experience to enable elaboration. For example, in Peter's case, Fransella encouraged him to elaborate those occasions in which he spoke fluently. In the case of the person with selective mutism, elaboration of those occasions where they have spoken previously may be useful. Furthermore, setting up behavioural experiments may be another method of elaboration, drawing on the 'person as scientist' model of Kelly's original theory (Kelly, 1955). Firstly, it would be important to identify the possible implications of speaking (e.g., 'if I speak, they may perceive me to be aggressive'), setting up a prediction as to what might happen (e.g. 'if I smile after speaking and the person smiles back at me, I can assume they do not believe me to be aggressive') and reviewing the event to see if the hypothesis was supported (e.g. 'did the person you spoke to smile back? If not, what reasons can you generate as to why they did not smile? If they did, what does this tell you?'). However, there is a fundamental assumption with this approach that the person with selective mutism will speak to the therapist to enable this interaction.

If the client is unable to speak to the therapist, then perhaps it is possible to enable elaboration of speaking experiences through the use of 'social stories'. Gray (1993) developed social stories and comic strip conversations for use with people with autism to improve their social interactions. The therapist could utilise the creativity of the person with selective mutism to draw comic strips of speaking experiences, gradually increasing the range of speaking experiences and appropriate responses that enable a person to recognise that when others are invalidating, they need not threaten your core role construing (e.g., 'I have behaved appropriately, therefore, if they did not smile at me, it was not because I was aggressive').

With regard to the outcome as per the Experience Cycle Methodology, Neimeyer (1987) suggests that clients who are stuck in the Experience Cycle may need assistance dependent on the stage in which they find themselves. He states that by identifying the appropriate stage, the therapist can take steps to restore psychological movement. For example, clients may need help with recognising the invalidation/disconfirmation of their construing by enabling them to make sense of their experience. Again, this could be done using social stories or through watching video tapes of others or themselves.

Feedback from participants has been useful for thinking about how to work clinically with these clients. Mary, in particular, provided useful feedback with her data. She stated that eye contact and – ironically - silence are particularly difficult in the therapy room, which can be managed by the professional sitting side-by-side instead of opposite clients, as well as using a small radio to break the silence. Abbie stated that although she has increased the number of people that she is speaking to, she also finds it easier to talk if others initiate contact. Therefore, it may be important for the systems around the child or adolescent (e.g. health or education teams) to ensure that therapists, teachers or support staff regularly and consistently initiate conversation in a gentle, supportive manner.

4.3. Limitations of the current study

There are a number of limitations associated with this study. Recruitment difficulties are inherent with this population because of the relational aspects of communication. One of the main problems, therefore, is the small sample size of this study, which means that results may not be generalisable to the selective mutism population at

large. Consideration should also be afforded to the fact that there may be a sampling bias as they were recruited from an online social networking site. Obviously, this might attract a particular type of person. However, without the use of the social networking site and online methods, these adolescents would not have been reached as they are not currently engaged with services. As previously mentioned, prevalence rates indicate a higher rate of these children in the non-clinical population (Standart and Le Couteur, 2003). It may be that social networking sites are the ideal method for recruiting the selectively mute population. Viewing of the sites indicates that even the people with severe selective mutism are able to utilise these sites for support and validation of their experiences. Therefore, although the use of a social networking site for recruitment might be a criticism of any research, it may be a strength of this particular study. Furthermore, the ability of the researcher to become familiar with the sample over a matter of months means that positive judgements about the validity of the participants' self-report data could be made. Typically, gathering data over the internet causes difficulties in itself. For example, not having a face-to-face conversation means that forming a relationship and maintaining engagement is difficult. However, once again, it appears that this method was enabling rather than disempowering for the adolescents with selective mutism in this sample. Furthermore, using the internet to communicate with participants meant that credibility checks could be made throughout the analysis and interpretation procedure.

Some of the original participants did not continue with the study upon receiving the information sheet. Personal Construct Psychology uses some intimidating phrases and words. It may be that completing a repertory grid online was too challenging and off-putting for potential participants. Furthermore, this research demanded a high level of cognitive functioning and literacy. It may be that the methods could be adapted to reduce the more challenging aspects of data elicitation. For example, the use of drawings and stories with children in PCP has been well-documented (Ravenette, 1997,1999; Procter, 2002; Moran, 2001).

Time constraints and recruitment difficulties meant this study lacked comparison groups. Therefore, another limitation is that the findings may be attributable to a range of variables, including adolescence, anxiety or gender. Clearly, further studies with a larger sample size and comparison groups is necessary.

A threat to the internal validity of the research was that the Experience Cycle Methodology was gathered retrospectively (Hassan, 2006). However, steps were taken to minimise recall bias by encouraging all participants to recall recent accounts of less than six months old and providing them with time to reflect on their experiences (Hassan, 2006; Bradburn, Rips and Shevell, 1987). Furthermore the ECM questionnaire was emailed in the same standard layout for each participant. This means that there was less influence of the interviewer on participant response. It could be argued that this method may not be any more inaccurate than in the therapy room itself whereby clients are asked to recall recent events using thought records in Cognitive Behaviour Therapy.

A further limitation of this study was the threat to the reliability of the content analysis inasmuch as the percentage agreement between raters was highly likely to be at chance levels (Cohen, 1960; Kolbe and Burnett, 1991). One way of accounting for agreement being due to chance is to use a statistical analysis. However, after consultation with a statistician it was found that it was not possible for this study. Another method for improving the level of inter-rater agreement is by training the raters (Green, 2004). However, this was also outside the possibility of the current research study due to time and resource constraints. Honey (1979, cited in Green, 2004) recommends the use of additional coders for managing discrepancies in categorisation. However, Green (2004) states that increasing the number of coders will increase the level of agreement although there is little empirical evidence in support of this method. Green (2004, page 83) warns that content analysis is essentially raters “construing the construct processes of others” which involves a level of expectation that there will be disagreements between coders. Nevertheless, the most frequently used categories in this study correspond with the original study by Feixas *et al* (2002) who found that the personal, emotional and relational categories were coded most frequently. Therefore, although the findings of the content analysis should be interpreted with caution, they provide an indication of the thematic tendencies in the construing of the sample.

Despite these limitations, the study has provided an insight into the personal construing of the adolescents with selective mutism in this sample and provided some tentative support for previous research by Omdal (2007) and a personal construct approach to stuttering (Fransella, 1972). It has also provided some ideas for further research.

4.4. Further research suggestions

An obvious future research suggestion is a comparison study using a larger sample to address the possible influence of confounding variables on these results.

Although this study found some suggestions for the salience of the mute subsystem to enable prediction and identified the possibility that mutism may be a way of avoiding invalidation, without comparison groups, it is difficult to establish the role that mutism plays in this finding.

This research found that three of the adolescents in the sample had well-structured mute subsystems and being mute was meaningful for five of them. Therefore, it was suggested that the mutism may be regarded as an elaborative choice that enables maximum predictive potential. This was in line with Fransella's (1972) work with stutterers. She stated that being a stutterer enabled participants to make predictions about their role relationships. Another area for future research, then, may be to explore the difficulties with prediction that may be present in people with selective mutism. One method for doing this might be to look at sociality. As mentioned in the Introduction, sociality is the "extent that one person construes the construction processes of another" (Kelly, 1955; p95) and is necessary for successful social interaction. It can be likened to theory of mind development. Previous research differentiated between first-order and second-order false belief tests, which develop at different ages (Baron-Cohen, 1989; 2001). First-order false belief ability is where a person can infer the mental state of another and develops around age 3-4. Similarly, selective mutism tends to appear at around age 3-4 years. Further research in this area could be carried out by exploring sociality using personal construct methods. Jackson and Bannister (1985) explored sociality in adolescents by using self-characterisations, and Ravenette (1999) used 'self-description grids' with children to identify how they think other people see them. Either of these methods could be adapted to explore sociality in children and adolescents with selective mutism.

Dunn (1993) argues that appropriate life experiences are necessary for social development. Indeed, research has queried the necessity of language on theory of mind development. Frank (2010) found that pragmatic/cultural factors moderately influence theory of mind development. However, there are also indicators that nonverbal theory of mind develops before verbal theory of mind (Onishi and

Baillargeon, 2005). Nonetheless, it may be worth exploring pragmatic language in the family systems of children with selective mutism. Foucault was interested in the rules and practices that regulated discourse. Foucault's work suggested that discourse produces a position for the 'subject' (the person being subjected to the discourse) from which meaning and effects are formed (Foucault, 1980). Gergen and Gergen (1988) go on to suggest that via discourse, the selves are developed through narratives, which are context dependent. Furthermore, Sacks (1992) examined the social aspects of communication and suggests that in the exchange of discourse, procedural rules will be established. Drewery (2005) explains that during conversation, a speaker will position the other person in a way that can be agentive or exclusionary. Drewery (2005) found that adult-child conversations tend to include more 'exclusionary position calls', meaning that children may be silenced in their conversations with adults. Bearing these ideas in mind, it is possible to see how the silenced 'self as mute' may be understood in terms of an internalised discourse, which later becomes an adopted narrative. Further research might explore the use of exclusionary position calls in families of children with selective mutism. Of course, this researcher is not proposing any form of linguistic determinism but instead an approach to understanding selective mutism that considers the complex interaction between nature and nurture.

4.5. Conclusion

In this study, the evidence base on selective mutism has been discussed. The complexity of selective mutism has been described through considering the previous research and exploring possible etiologies from a variety of different perspectives. The current study proposed an exploration of selective mutism in an adolescent population to enable an understanding of the personal meaning of this phenomenon to the people at its centre. Results found some support for the sense of loneliness and isolation reported by Omdal (2007). Furthermore, there was some evidence for understanding mutism as a choice that enables individuals to make more predictions about others in their interpersonal relationships. The self when mute was found to be more salient than the self when speaking for all but one of the participants in this study. It was also identified that selective mutism may allow the avoidance of invalidation of core role construing. An important task of researchers appears to be

the further exploration of sociality (theory of mind) in selective mutism to gain a clearer understanding of this condition and enable clinical advances for intervention.

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Appendix 1

Literature Review Search Strategy

Multiple databases were searched in order to identify relevant literature for this research, as follows:

ISI Web of Science, PsycINFO, InformaWorld and MEDLINE. The Cumulative Index of Nursing & Allied Health (CINAHL) was also searched because speech and language is included in its range of subjects.

The following categories of search terms were used, including the associated keywords:

1. Selective Mutism; selectiv* AND (mute OR mutism), elective mutism, social anxiety, anxiety, social phobia, silence
2. Personal Construct Psychology; repertory grids, "experience cycle", personal construct*
3. Adolescents; adolescen* OR teen OR "young people" OR "young person" OR youth
4. Interventions: family, therapy, support, groups, treatment

The search terms for the first category were searched for alone and combined with the remaining three categories. The following limits were set for the third category results in order to reduce the number of sources: Age groups.

Articles were generally excluded if they were not reported in English.

In addition, the references of retrieved articles were hand searched in order to identify any additional publications.

Appendix 2

University of Hertfordshire Ethical Approval

Revised (September 2006)

SCHOOL OF PSYCHOLOGY ETHICS COMMITTEE APPROVAL

Student Investigator: Fiona Patterson

Title of project: Personal Constructs of Adolescents with Selective Mutism: Power & Discourse in Systems

Supervisor: David Winter and Clare Norris

Registration Protocol Number: PSY/10/10/FP

The approval for the above research project was granted on 18 October 2010 by the Psychology Ethics Committee under delegated authority from the Ethics Committee of the University of Hertfordshire.

The end date of your study is 30 September 2011.

Signed:



Date: 18 October 2010

Professor Lia Kvavilashvili
Chair
Psychology Ethics Committee

STATEMENT OF THE SUPERVISOR:

From my discussions with the above student, as far as I can ascertain, s/he has followed the ethics protocol approved for this project.

Signed (supervisor):

Date:

Appendix 3:

Title of project: Personal Constructs of Adolescents with Selective Mutism

INFORMATION SHEET FOR PARTICIPANTS AND PARENTS

Introduction

Potential participants are being invited to take part in a research study that looks to understand how adolescents make sense of their speaking and non-speaking experiences in the context of Selective Mutism. Before you decide whether you would like to give consent to take part, please take the time to read the following information which I have written to help you understand why the research is being carried out and what it will involve.

The researchers

The study is being carried out by Fiona Patterson, Trainee Clinical Psychologist, as part of a Doctoral qualification in Clinical Psychology. The study is supervised by Professor David Winter, Professor of Clinical Psychology and Chartered Clinical Psychologist, and Dr Clare Norris, Clinical Lecturer and Chartered Clinical Psychologist.

What is the purpose of the study?

This research is looking at the experience of speaking and not speaking in adolescents with Selective Mutism. Selective Mutism is a condition usually beginning in younger childhood where individuals are only able to speak in selected environments and/or with selected people. Research is important to increase clinical psychologists' understanding of the development and maintenance of Selective Mutism. Furthermore, increased psychological understanding may help with its treatment and improve people's lives.

What is involved?

Participants will be required to answer some questions about a speaking experience. There are also a number of questions asking for background information and some questions that measure anxiety and depression. At the second stage, participants will also be asked to complete a 'repertory grid', which is a technique that enables the researchers to explore participants' experiences of speaking and not speaking.

Who is taking part?

Adolescents with Selective Mutism are being asked to take part in this research. This study aims to recruit a maximum of 6 participants in total, aged between 13 and 19 years old.

Do I have to take part?

No. Participation is entirely voluntary and participants can withdraw at any time.



What do I have to do?

If after reading this information sheet you would like to take part in the research, parents of participants under 18 years old will need to consent to participation. Participants of 18 years and above can provide consent themselves.

Will taking part be confidential?

Yes. Answers will be anonymous. This means that the questionnaire will not have the name or contact details of the person completing it on it. Completed questionnaires will be confidential, and will only be accessible by the researchers. The overall findings of the project may be published in a research paper, but no individuals will be identifiable.

What are the benefits of taking part?

Taking part in this study may not benefit participants personally. However, it is hoped that this research will help develop psychological understanding of people who experience Selective Mutism.

What if I have questions or concerns?

If you have any further questions about the research, please feel free to contact the researcher via email, telephone or post, details of which are below. In the unlikely event that participating in this research has caused distress in some way, please do not hesitate to contact the researcher, who will be able to advise on where further help may be accessed.

Who has reviewed this study?

The study has been reviewed and approved by the University of Hertfordshire Psychology Ethics Committee. The protocol number is PSY/10/10/FP.

Thank you for taking time to read this.

Contact details of the researcher:

Name: **Fiona Patterson**
Email address: fionapatz@aol.com
Telephone number: 07940 393012
Postal address: Doctor of Clinical Psychology Training Course
University of Hertfordshire
Hatfield, Herts., AL10 9AB



Appendix 4

CONSENT FORM

Title of Project: Personal Constructs of Adolescents with Selective Mutism

Researcher: Fiona Patterson, Trainee Clinical Psychologist

Please put X in box

1. I confirm that I have read and understand the information sheet explaining what is involved and what is expected.
2. I understand that participation is voluntary and that participants are free to withdraw at any time.
3. I am over 18 or have parental/caregivers' consent to take part in the above study.

.....
Name of participant

.....
Date

.....
Name of parent of participant



Appendix 5

Background Questions

1. How old are you?
2. Are you male or female?
3. How would you describe your ethnicity?
4. What is your first language?
5. Have you ever been formally identified as having Selective Mutism?
6. If yes, at what age and how was it identified, e.g. diagnosed by psychiatrist?
7. Have you ever had any other diagnosis, e.g. Aspergers, anxiety, a communication disorder such as stuttering, deafness, etc? If yes, please explain.
8. Would you consider yourself to still have Selective Mutism, i.e., do you speak normally in at least one setting but are mute in other settings?
9. Are you currently attending school/college/work? If no, please explain why not
10. If yes, do you speak to anyone at school/college/work and if so who?
11. Have you ever had treatment for Selective Mutism? If yes, what?
12. What does this label (Selective Mutism) mean to you?
13. Do you have any siblings? If yes, please state how many and their ages e.g. one sister (9 years old) and one brother (15 years old)
14. Who do you live with at home?
15. Did you reach all developmental milestones on time, e.g. walking, talking, etc.?
16. Is there a family history of mental health difficulties, either treated or untreated? If yes, please can you tell me more about this.
17. What led you to take part in this study?

Thank you for taking part in this study



Appendix 6 - Hospital Anxiety & Depression Scale

Questionnaire

Instructions: This is a questionnaire that asks about your feelings. **Read each item and tick the box which comes closest to how you have been feeling in the past week.** Don't take too long over your replies: your immediate reaction to each item will probably be more accurate than a long thought out response.

I feel tense or wound up:	<input type="radio"/> Most of the time	<input type="radio"/> A lot of the time	<input type="radio"/> Time to time, occasionally	<input type="radio"/> Not at all
I still enjoy the things I used to enjoy:	<input type="radio"/> Definitely as much	<input type="radio"/> Not quite so much	<input type="radio"/> Only a little	<input type="radio"/> Not at all
I get a sort of frightened feeling like something awful is about to happen:	<input type="radio"/> Very definitely and quite badly	<input type="radio"/> Yes, but not too badly	<input type="radio"/> A little, but it doesn't worry me	<input type="radio"/> Not at all
I can laugh and see the funny side of things:	<input type="radio"/> As much as I always could	<input type="radio"/> Not quite so much now	<input type="radio"/> Definitely not so much now	<input type="radio"/> Not at all
Worrying thoughts go through my mind:	<input type="radio"/> A great deal of the time	<input type="radio"/> A lot of the time	<input type="radio"/> From time to time but not too often	<input type="radio"/> Only occasionally
I feel cheerful:	<input type="radio"/> Not at all	<input type="radio"/> Not often	<input type="radio"/> Sometimes	<input type="radio"/> Most of the time
I can sit at ease and feel relaxed				

<input type="radio"/> Definitely <input type="radio"/> Usually <input type="radio"/> Not often <input type="radio"/> Not at all
I feel as if I am slowed down:
<input type="radio"/> Nearly all of the time <input type="radio"/> Very often <input type="radio"/> Sometimes <input type="radio"/> Not at all
I get a sort of frightened feeling like 'butterflies in the stomach':
<input type="radio"/> Not at all <input type="radio"/> Occasionally <input type="radio"/> Quite often <input type="radio"/> Very often
I have lost interest in my appearance:
<input type="radio"/> Definitely <input type="radio"/> I don't take as much care as I should <input type="radio"/> I may not take quite as much care <input type="radio"/> I take just as much care as ever
I feel restless as if I have to be on the move:
<input type="radio"/> Very much indeed <input type="radio"/> Quite a lot <input type="radio"/> Not very much <input type="radio"/> Not at all
I look forward with enjoyment to things:
<input type="radio"/> A much as I ever did <input type="radio"/> Rather less than I used to <input type="radio"/> Definitely less than I used to <input type="radio"/> Hardly at all
I get sudden feelings of panic:
<input type="radio"/> Very often indeed <input type="radio"/> Quite often <input type="radio"/> Not very often <input type="radio"/> Not at all
I can enjoy a good book or radio or TV programme:
<input checked="" type="radio"/> Often <input type="radio"/> Sometimes <input type="radio"/> Not often <input type="radio"/> Very seldom



Appendix 7

Repertory Grids

Louise's Grid

ELEMENTS									CONSTRUCTS	
Teacher you like	Teacher you dislike	Mother/mother figure	Father/father figure	Brother/Sister	Pupil you dislike	Self speaking	Self Mute	Ideal self		
7	1	5	5	4	1	6	4	7	Knowledgeable	Ignorant
7	2	6	4	4	5	5	1	7	Confident	Awkward
7	1	5	5	3	1	6	5	7	Thoughtful	Unthinking
7	2	6	6	5	1	6	6	7	Sympathetic	Insensitive
7	1	4	5	3	2	6	4	7	Informed	Unaware
7	3	6	4	5	7	5	1	7	Secure	Insecure
7	3	5	3	7	7	5	1	7	Focused	Distracted
7	4	4	6	6	6	6	1	7	Composed	Anxious
7	3	7	7	7	1	7	6	7	Caring	Cold
7	4	7	6	7	2	5	1	7	Friendly	Aloof

Abbie's Grid

ELEMENTS									CONSTRUCTS	
Teacher you like	Teacher you dislike	Mother/mother figure	Father/father figure	Brother/Sister	Pupil you dislike	Self speaking	Self Mute	Ideal self		
6	1	6	5	6	1	7	7	6	Humble	Cocky
5	2	7	7	5	2	1	6	6	Knowledgeable	Uninformed
5	1	7	4	6	3	5	5	5	Thoughtful	Inconsiderate
7	5	6	7	7	1	1	6	4	Friendly	Awkward
6	5	6	5	6	3	4	6	5	Intelligent	Inexperienced
5	6	4	7	5	5	1	6	4	Outgoing	Quiet
4	5	6	7	7	3	1	6	6	Humorous	Dull
7	7	5	7	7	7	1	6	4	Talkative	Reserved
6	3	6	5	5	3	6	6	6	Modest	Egocentric
7	7	5	7	7	7	1	6	5	Chatty	Silent

Holly's Grid

ELEMENTS									CONSTRUCTS	
Teacher you like	Teacher you dislike	Mother/mother figure	Father/father figure	Brother/Sister	Pupil you dislike	Self speaking	Self Mute	Ideal self		
5	3	5	4	6	2	6	2	7	Happy	Depressed
5	2	5	4	6	1	7	2	7	Liked	Hated
6	2	4	3	6	2	6	1	7	Agreeable	Stubborn
5	3	5	4	5	2	6	1	7	Proud	Disappointed
5	2	5	4	7	2	5	1	6	Content	Uncomfortable
6	4	7	5	6	5	6	6	6	Determined	Discouraged
4	2	6	4	6	1	6	2	7	Calm	Uptight
5	2	6	3	6	1	7	2	7	Comfortable	Anxious
4	2	6	3	7	1	6	2	6	Courageous	Nervous
5	2	5	4	6	1	6	2	7	Untroubled	Worried

Rachel's Grid

ELEMENTS									CONSTRUCTS	
Teacher you like	Teacher you dislike	Mother/mother figure	Father/father figure	Brother/Sister	Pupil you dislike	Self speaking	Self Mute	Ideal self		
6	5	5	4	6	4	5	1	5	Loud	Withdrawn
5	5	7	4	6	5	4	2	6	Outgoing	Shy
6	5	7	6	7	5	6	3	7	Happy	Sad
4	5	4	4	6	3	4	1	5	Funny	Serious
6	4	7	7	6	3	4	4	5	Encouraging	Doubtful
7	6	7	6	7	4	6	1	6	Usual	Unusual
6	6	7	6	7	5	5	2	7	Relaxed	Terrified
6	5	6	4	6	5	5	1	6	Noisy	Silent
6	6	7	5	6	6	5	1	6	Talkative	Whispering
6	5	7	6	6	5	5	2	6	Able	Uptight

Emily's Grid

ELEMENTS									CONSTRUCTS	
Teacher you like	Teacher you dislike	Mother/mother figure	Father/father figure	Brother/Sister	Pupil you dislike	Self speaking	Self Mute	Ideal self		
6	6	6	6	5	7	5	1	6	Talkative	Not Talkative
5	6	6	6	4	7	5	1	6	Loud	Quiet
6	1	7	7	7	2	6	6	7	Kind	Unkind
6	6	6	6	4	7	6	1	6	Talkative	Shy
7	7	6	6	6	7	6	1	6	Confident	Not Confident
6	3	6	5	6	4	5	5	7	Calm	Not Calm
4	4	6	6	5	5	6	2	5	Silly	Serious
6	7	6	6	5	7	6	1	7	Not Nervous	Nervous
7	4	6	6	6	2	6	6	6	Sensible	Not Sensible
7	1	7	7	7	1	7	7	7	Not Selfish	Selfish

Mary's Grid

ELEMENTS									CONSTRUCTS	
Teacher you like	Teacher you dislike	Mother/mother figure	Father/father figure	Brother/Sister	Pupil you dislike	Self speaking	Self Mute	Ideal self		
7	2	6	4	3	1	6	4	7	Helpful	Uncooperative
7	1	7	4	4	2	5	3	6	Friendly	Distant
7	4	7	3	2	2	6	5	6	Interested	Uncaring
5	4	4	6	7	1	7	7	5	Sensitive	Insensitive
7	3	6	1	3	4	3	7	6	Patient	Intolerant
3	3	6	1	5	5	5	1	5	Sociable	Reserved
6	3	6	5	7	2	3	7	5	Passive	Bossy
4	5	5	4	3	2	4	1	6	Relaxed	Tense
5	3	5	3	6	1	6	5	5	Sympathetic	Cold
7	5	7	5	6	1	6	7	7	Respectful	Disrespectful

Appendix 8

Idiogrid analyses

Slater Analyses for Louise

Original Grid (Louise)

	Teacher	You Like	Teacher You Dislike	Aunt	Dad	Sister	Pupil You Dislike	Self Speaking	Self Mute	Ideal Self	
Knowledgeable	7.00	1.00	5.00	5.00	4.00	1.00	6.00	4.00	7.00	7.00	Ignorant
Confident	7.00	2.00	6.00	4.00	4.00	5.00	5.00	1.00	7.00	7.00	Awkward
Thoughtful	7.00	1.00	5.00	5.00	3.00	1.00	6.00	5.00	7.00	7.00	Unthinking
Sympathetic	7.00	2.00	6.00	6.00	5.00	1.00	6.00	6.00	7.00	7.00	Insensitive
Informed	7.00	1.00	4.00	5.00	3.00	2.00	6.00	4.00	7.00	7.00	Unaware
Secure	7.00	3.00	6.00	4.00	5.00	7.00	5.00	1.00	7.00	7.00	Insecure
Focused	7.00	3.00	5.00	3.00	7.00	7.00	5.00	1.00	7.00	7.00	Distracted
Composed	7.00	4.00	4.00	6.00	6.00	6.00	6.00	1.00	7.00	7.00	Anxious
Caring	7.00	3.00	7.00	7.00	7.00	1.00	7.00	6.00	7.00	7.00	Cold
Friendly	7.00	4.00	7.00	6.00	7.00	2.00	5.00	1.00	7.00	7.00	Aloof

Descriptive Statistics for Elements [Louise]

	Means	Sum of Squares	Percent Total Sum of Squares
Teacher You Like	2.10	45.94	12.23
Teacher You Dislike	-2.50	69.49	18.50
Aunt	0.60	11.16	2.97
Dad	0.20	10.05	2.68
Sister	0.20	14.05	3.74
Pupil You Dislike	-1.60	87.38	23.27
Self Speaking	0.80	10.72	2.85
Self Mute	-1.90	80.83	21.52
Ideal Self	2.10	45.94	12.23

Note. Values are based upon deviation matrix in which construct means were removed from the original grid scores.

Total SS: 375.56

Element Euclidean Distances

Teacher You Like																			
		Teacher You Dislike																	
			Aunt																
				Dad															
					Sister														
						Pupil You Dislike													
							Self Speaking												
								Self Mute											
									Ideal Self										

Teacher You Like	0.00									
Teacher You Dislike	14.97	0.00								
Aunt	5.74	10.54	0.00							
Dad	7.00	9.64	4.24	0.00						
Sister	7.68	8.89	4.47	5.29	0.00					
Pupil You Dislike	14.11	7.42	11.49	12.00	9.80	0.00				
Self Speaking	4.58	11.36	4.00	3.16	5.66	12.00	0.00			
Self Mute	14.28	9.27	10.63	8.66	11.36	13.89	9.95	0.00		
Ideal Self	0.00	14.97	5.74	7.00	7.68	14.11	4.58	14.28	0.00	

Element Euclidean Distances (standardized)

		Teacher You Like								
			Teacher You Dislike							
				Aunt						
					Dad					
						Sister				
							Pupil You Dislike			
								Self Speaking		
									Self Mute	
										Ideal Self
Teacher You Like	0.00									
Teacher You Dislike	1.54	0.00								
Aunt	0.59	1.09	0.00							
Dad	0.72	1.00	0.44	0.00						
Sister	0.79	0.92	0.46	0.55	0.00					
Pupil You Dislike	1.46	0.77	1.19	1.24	1.01	0.00				
Self Speaking	0.47	1.17	0.41	0.33	0.58	1.24	0.00			
Self Mute	1.47	0.96	1.10	0.89	1.17	1.43	1.03	0.00		
Ideal Self	0.00	1.54	0.59	0.72	0.79	1.46	0.47	1.47	0.00	

Note. Values are standardized around the expected distance between random pairings of elements. For this grid: 9.69.

Descriptive Statistics for Constructs [(Louise)]

	Means	Sum of Squares	
			Percent Total Sum of Squares
Knowledgeable	4.44	40.22	10.71
Confident	4.56	34.22	9.11
Thoughtful	4.44	42.22	11.24
Sympathetic	5.11	36.89	9.82
Informed	4.33	36.00	9.59
Secure	5.00	34.00	9.05
Focused	5.00	40.00	10.65
Composed	5.22	29.56	7.87
Caring	5.78	39.56	10.53
Friendly	5.11	42.89	11.42

Total SS: 375.56
 Bias: 0.33
 Variability: 0.72

Construct Correlations

Knowledgeable	Confident	Thoughtful	Sympathetic	Informed	Secure	Focused

									Composed	Caring	Friendly
Knowledgeable	1.00										
Confident	0.61	1.00									
Thoughtful	0.98	0.52	1.00								
Sympathetic	0.95	0.38	0.95	1.00							
Informed	0.96	0.64	0.97	0.87	1.00						
Secure	0.32	0.94	0.21	0.06	0.37	1.00					
Focused	0.25	0.81	0.10	0.00	0.26	0.92	1.00				
Composed	0.38	0.78	0.23	0.11	0.44	0.82	0.81	1.00			
Caring	0.87	0.30	0.83	0.95	0.73	0.00	0.00	0.13	1.00		
Friendly	0.64	0.69	0.48	0.55	0.50	0.55	0.53	0.64	0.66	1.00	

Direction cosines between Constructs and Elements

	Teacher You Like	Teacher You Dislike	Aunt	Dad	Sister	Pupil You Dislike	Self Speaking	Self Mute	Ideal Self
Knowledgeable	0.90	-0.96	0.55	0.48	-0.13	-0.82	0.94	-0.26	0.90
Confident	0.89	-0.77	0.55	-0.18	0.11	-0.13	0.49	-0.85	0.89
Thoughtful	0.82	-0.92	0.49	0.50	-0.33	-0.83	0.95	-0.09	0.82
Sympathetic	0.73	-0.85	0.57	0.61	-0.15	-0.94	0.87	-0.01	0.73
Informed	0.90	-0.95	0.37	0.42	-0.30	-0.70	0.97	-0.26	0.90
Secure	0.70	-0.54	0.37	-0.44	0.24	0.20	0.21	-0.92	0.70
Focused	0.62	-0.47	0.24	-0.54	0.49	0.23	0.14	-0.90	0.62

Composed	0.70	-0.51	0.10	-0.07	0.36	0.04	0.36	-0.91	0.70
Caring	0.64	-0.76	0.62	0.67	0.11	-0.96	0.78	-0.06	0.64
Friendly	0.74	-0.64	0.73	0.30	0.52	-0.53	0.42	-0.72	0.74

Note. Values reflect construct/element cosines (correlations) in the full component space.

Eigenvalue Decomposition

	Eigenvalue	% Variance	Cumulative %	Scree
PC_ 1	230.10	61.27	61.27	*****
PC_ 2	106.90	28.46	89.73	*****
PC_ 3	24.45	6.51	96.24	**
PC_ 4	7.67	2.04	98.29	*
PC_ 5	5.43	1.45	99.73	*
PC_ 6	0.80	0.21	99.94	*
PC_ 7	0.22	0.06	100.00	*
PC_ 8	0.00	0.00	100.00	*

Element Loadings

	PC_1	PC_2
Teacher You Like	-6.61	-1.13
Teacher You Dislike	8.11	-0.48
Aunt	-2.06	0.14
Dad	-1.04	2.20
Sister	-0.21	-1.65
Pupil You Dislike	6.37	-6.44
Self Speaking	-2.77	1.14
Self Mute	4.82	7.34
Ideal Self	-6.61	-1.13

Note. Values for plotting elements in the component space.

Element Eigenvectors

	PC_1	PC_2
Teacher You Like	-0.44	-0.11
Teacher You Dislike	0.53	-0.05
Aunt	-0.14	0.01
Dad	-0.07	0.21
Sister	-0.01	-0.16
Pupil You Dislike	0.42	-0.62
Self Speaking	-0.18	0.11
Self Mute	0.32	0.71
Ideal Self	-0.44	-0.11

Construct Loadings

	PC_1	PC_2
Knowledgeable	-6.05	1.80
Confident	-4.67	-3.18
Thoughtful	-5.72	2.67
Sympathetic	-5.10	3.24
Informed	-5.48	1.32
Secure	-3.31	-4.63
Focused	-3.14	-5.17
Composed	-3.26	-3.70
Caring	-4.98	3.21
Friendly	-5.18	-1.44

Construct Eigenvectors

	PC_1	PC_2
Knowledgeable	-0.40	0.17
Confident	-0.31	-0.31
Thoughtful	-0.38	0.26
Sympathetic	-0.34	0.31
Informed	-0.36	0.13
Secure	-0.22	-0.45
Focused	-0.21	-0.50
Composed	-0.21	-0.36
Caring	-0.33	0.31
Friendly	-0.34	-0.14

Note. Values for orienting (drawing) constructs in component space.

{Graph Created: Louise / PC_1 vs. PC_2 (Slater)}

Slater Analyses for Abbie's Grid

Original Grid (Abbie's Grid)

	Teacher you like	Teacher you dislike	Mother	Father	Pupil you like	Pupil you dislike	Self Speaking	Self Mute	Ideal Self	
	
Humble	6.00	1.00	6.00	5.00	6.00	1.00	7.00	7.00	6.00	Cocky
Knowledgeable	5.00	2.00	7.00	7.00	5.00	2.00	1.00	6.00	6.00	Uninformed
Thoughtful	5.00	1.00	7.00	4.00	6.00	3.00	5.00	5.00	5.00	Inconsiderate
Friendly	7.00	5.00	6.00	7.00	7.00	1.00	1.00	6.00	4.00	Awkward
Intelligent	6.00	5.00	6.00	5.00	6.00	3.00	4.00	6.00	5.00	Inexperienced
Outgoing	5.00	6.00	4.00	7.00	5.00	5.00	1.00	6.00	4.00	Quiet
Humorous	4.00	5.00	6.00	7.00	7.00	3.00	1.00	6.00	6.00	Dull
Talkative	7.00	7.00	5.00	7.00	7.00	7.00	1.00	6.00	4.00	Reserved
Modest	6.00	3.00	6.00	5.00	5.00	3.00	6.00	6.00	6.00	Egocentric
Chatty	7.00	7.00	5.00	7.00	7.00	7.00	1.00	6.00	5.00	Silent

Descriptive Statistics for Elements [Abbie's Grid]

	Means	Sum of Squares	Percent Total Sum of Squares
Teacher you like	0.76	11.75	3.91
Teacher you dislike	-0.84	44.42	14.80
Mother	0.76	18.42	6.14
Father	1.06	22.98	7.65
Pupil you like	1.06	15.86	5.28
Pupil you dislike	-1.54	56.31	18.76
Self Speaking	-2.24	108.86	36.26
Self Mute	0.96	11.75	3.91
Ideal Self	0.06	9.86	3.29

Note. Values are based upon deviation matrix in which construct means were removed from the original grid scores.

Total SS: 300.22

Element Euclidean Distances

	Teacher you like	Teacher you dislike	Mother	Father	Pupil you like	Pupil you dislike	Self Speaking	Self Mute	Ideal Self
Teacher you like	0.00								
Teacher you dislike	8.12	0.00							
Mother	4.69	10.49	0.00						
Father	4.58	7.94	5.57	0.00					

Pupil you like	3.32	8.54	4.12	3.74	0.00				
Pupil you dislike	9.64	5.39	11.27	10.30	10.39	0.00			
Self Speaking	12.41	13.86	11.66	14.93	13.53	11.96	0.00		
Self Mute	3.16	9.06	3.46	3.61	3.00	10.54	12.41	0.00	
Ideal Self	5.39	9.22	3.32	6.00	5.29	9.49	9.75	3.87	0.00

Element Euclidean Distances (standardized)

	Teacher you like	Teacher you dislike	Mother	Father	Pupil you like	Pupil you dislike	Self Speaking	Self Mute	Ideal Self
Teacher you like	0.00								
Teacher you dislike	0.94	0.00							
Mother	0.54	1.21	0.00						
Father	0.53	0.92	0.64	0.00					
Pupil you like	0.38	0.99	0.48	0.43	0.00				
Pupil you dislike	1.11	0.62	1.30	1.19	1.20	0.00			
Self Speaking	1.43	1.60	1.35	1.72	1.56	1.38	0.00		
Self Mute	0.37	1.05	0.40	0.42	0.35	1.22	1.43	0.00	
Ideal Self	0.62	1.06	0.38	0.69	0.61	1.10	1.13	0.45	0.00

Note. Values are standardized around the expected distance between random pairings of elements. For this grid: 8.66.

Descriptive Statistics for Constructs [(Abbie's Grid)]

	Means	Sum of Squares	Percent Total Sum of Squares
Humble	5.00	44.00	14.66
Knowledgeable	4.56	42.22	14.06
Thoughtful	4.56	24.22	8.07
Friendly	4.89	46.89	15.62
Intelligent	5.11	8.89	2.96
Outgoing	4.78	23.56	7.85
Humorous	5.00	32.00	10.66
Talkative	5.67	34.00	11.32
Modest	5.11	12.89	4.29
Chatty	5.78	31.56	10.51

Total SS: 300.22
 Bias: 0.37
 Variability: 0.65

Construct Correlations

Humble	Knowledgeable	Thoughtful	Friendly	Intelligent	Outgoing	Humorous	Talkative	Modest	Chatty

Humble	1.00											
Knowledgeable	0.49	1.00										
Thoughtful	0.83	0.57	1.00									
Friendly	0.31	0.75	0.28	1.00								
Intelligent	0.56	0.69	0.51	0.89	1.00							
Outgoing	-0.37	0.45	-0.37	0.63	0.29	1.00						
Humorous	0.13	0.82	0.22	0.80	0.65	0.69	1.00					
Talkative	-0.49	0.28	-0.33	0.57	0.25	0.90	0.55	1.00				
Modest	0.97	0.53	0.82	0.29	0.55	-0.39	0.10	-0.51	1.00			
Chatty	-0.48	0.33	-0.32	0.57	0.25	0.90	0.60	0.99	-0.48	1.00		

Direction cosines between Constructs and Elements

	Teacher you like		Teacher you dislike		Mother		Father		Pupil you like		Pupil you dislike		Self Speaking		Self Mute		Ideal Self	
Humble	0.34	-0.92	0.73	-0.02	0.32	-0.86	0.26	0.68	0.64									
Knowledgeable	0.44	-0.53	0.78	0.77	0.67	-0.73	-0.61	0.84	0.41									
Thoughtful	0.30	-0.93	0.90	-0.02	0.45	-0.71	0.12	0.53	0.58									
Friendly	0.75	-0.16	0.48	0.81	0.87	-0.70	-0.76	0.77	-0.13									
Intelligent	0.70	-0.39	0.65	0.52	0.80	-0.85	-0.48	0.80	0.10									
Outgoing	0.36	0.44	-0.16	0.89	0.49	0.01	-0.93	0.41	-0.46									
Humorous	0.27	-0.10	0.47	0.88	0.81	-0.52	-0.82	0.69	0.13									
Talkative	0.48	0.50	-0.22	0.71	0.55	0.17	-0.91	0.20	-0.68									
Modest	0.36	-0.93	0.78	-0.02	0.23	-0.84	0.26	0.65	0.69									
Chatty	0.45	0.48	-0.20	0.74	0.56	0.16	-0.93	0.22	-0.59									

Note. Values reflect construct/element cosines (correlations) in the full component space.

Eigenvalue Decomposition

	Eigenvalue	% Variance	Cumulative %	Scree
PC_1	152.90	50.93	50.93	*****
PC_2	115.14	38.35	89.28	*****
PC_3	13.02	4.34	93.62	**
PC_4	9.17	3.05	96.67	**
PC_5	5.46	1.82	98.49	*
PC_6	2.93	0.97	99.47	*
PC_7	1.01	0.34	99.80	*
PC_8	0.59	0.20	100.00	*

Element Loadings

	PC_1	PC_2
Teacher you like	-2.08	-0.66
Teacher you dislike	0.29	6.33
Mother	-1.68	-3.51
Father	-4.49	0.55
Pupil you like	-3.37	-0.87
Pupil you dislike	3.69	6.17
Self Speaking	9.70	-3.72
Self Mute	-2.50	-1.92
Ideal Self	0.44	-2.37

Note. Values for plotting elements in the component space.

Element Eigenvectors

	PC_1	PC_2
Teacher you like	-0.17	-0.06
Teacher you dislike	0.02	0.59
Mother	-0.14	-0.33
Father	-0.36	0.05
Pupil you like	-0.27	-0.08
Pupil you dislike	0.30	0.58
Self Speaking	0.78	-0.35
Self Mute	-0.20	-0.18
Ideal Self	0.04	-0.22

Construct Loadings

	PC_1	PC_2
Humble	-0.66	-6.40
Knowledgeable	-5.27	-3.06
Thoughtful	-0.87	-4.30
Friendly	-6.31	-1.38
Intelligent	-2.16	-1.45
Outgoing	-3.94	2.45
Humorous	-5.14	-0.49
Talkative	-4.34	3.58
Modest	-0.33	-3.47
Chatty	-4.30	3.36

Construct Eigenvectors

	PC_1	PC_2
Humble	-0.05	-0.60
Knowledgeable	-0.43	-0.29
Thoughtful	-0.07	-0.40
Friendly	-0.51	-0.13
Intelligent	-0.17	-0.14
Outgoing	-0.32	0.23
Humorous	-0.42	-0.05
Talkative	-0.35	0.33
Modest	-0.03	-0.32
Chatty	-0.35	0.31

Note. Values for orienting (drawing) constructs in component space.

{Graph Created: Abbie's Grid / PC_1 vs. PC_2 (Slater)}

Slater Analyses for Holly

Original Grid (Blank Grid)

	Teacher You Like	Teacher You Dislike	Mother	Uncle	Brother	Pupil You Dislike	Self Speaking	Self Mute	Ideal Self	
	
Happy	5.00	3.00	5.00	4.00	6.00	2.00	6.00	2.00	7.00	Depressed
Liked	5.00	2.00	5.00	4.00	6.00	1.00	7.00	2.00	7.00	Hated
Agreeable	6.00	2.00	4.00	3.00	6.00	2.00	6.00	1.00	7.00	Stubborn
Proud	5.00	3.00	5.00	4.00	5.00	2.00	6.00	1.00	7.00	Disappointed
Content	5.00	2.00	5.00	4.00	7.00	2.00	5.00	1.00	6.00	Uncomfortable
Determined	6.00	4.00	7.00	5.00	6.00	5.00	6.00	6.00	6.00	Discouraged
Calm	4.00	2.00	6.00	4.00	6.00	1.00	6.00	2.00	7.00	Uptight
Comfortable	5.00	2.00	6.00	3.00	6.00	1.00	7.00	2.00	7.00	Anxious
Courageous	4.00	2.00	6.00	3.00	7.00	1.00	6.00	2.00	6.00	Nervous
Untroubled	5.00	2.00	5.00	4.00	6.00	1.00	6.00	2.00	7.00	Worried

Descriptive Statistics for Elements [Blank Grid]

Means
| Sum of Squares

			Percent Total Sum of Squares
Teacher You Like	0.62	6.94	2.11
Teacher You Dislike	-1.98	40.49	12.29
Mother	1.02	14.05	4.26
Uncle	-0.58	5.16	1.57
Brother	1.72	35.27	10.70
Pupil You Dislike	-2.58	72.94	22.13
Self Speaking	1.72	34.16	10.37
Self Mute	-2.28	61.05	18.52
Ideal Self	2.32	59.49	18.05

Note. Values are based upon deviation matrix in which construct means were removed from the original grid scores.

Total SS: 329.56

Element Euclidean Distances

	Teacher You Like	Teacher You Dislike	Mother	Uncle	Brother	Pupil You Dislike	Self Speaking	Self Mute	Ideal Self
Teacher You Like	0.00								
Teacher You Dislike	8.49	0.00							
Mother	3.74	9.80	0.00						
Uncle	4.47	4.69	5.66	0.00					
Brother	4.58	12.12	3.61	7.81	0.00				
Pupil You Dislike	10.49	2.83	11.92	6.93	14.25	0.00			

Self Speaking	4.36	12.04	3.61	7.81	2.83	14.32	0.00		
Self Mute	10.05	3.32	10.82	6.40	13.49	3.00	13.42	0.00	
Ideal Self	5.92	13.89	5.39	9.54	3.46	16.16	2.45	15.43	0.00

Element Euclidean Distances (standardized)

	Teacher You Like	Teacher You Dislike	Mother	Uncle	Brother	Pupil You Dislike	Self Speaking	Self Mute	Ideal Self
Teacher You Like	0.00								
Teacher You Dislike	0.93	0.00							
Mother	0.41	1.08	0.00						
Uncle	0.49	0.52	0.62	0.00					
Brother	0.50	1.34	0.40	0.86	0.00				
Pupil You Dislike	1.16	0.31	1.31	0.76	1.57	0.00			
Self Speaking	0.48	1.33	0.40	0.86	0.31	1.58	0.00		
Self Mute	1.11	0.37	1.19	0.71	1.49	0.33	1.48	0.00	
Ideal Self	0.65	1.53	0.59	1.05	0.38	1.78	0.27	1.70	0.00

Note. Values are standardized around the expected distance between random pairings of elements. For this grid: 9.08.

Descriptive Statistics for Constructs [(Blank Grid)]

	Means	Sum of Squares	
			Percent Total Sum of Squares
Happy	4.44	26.22	7.96
Liked	4.33	40.00	12.14
Agreeable	4.11	38.89	11.80
Proud	4.22	29.56	8.97
Content	4.11	32.89	9.98
Determined	5.67	6.00	1.82
Calm	4.22	37.56	11.40
Comfortable	4.33	44.00	13.35
Courageous	4.11	38.89	11.80
Untroubled	4.22	35.56	10.79

Total SS: 329.56

Bias: 0.19

Variability: 0.68

Construct Correlations

	Happy	Liked	Agreeable	Proud	Content	Determined	Calm	Comfortable	Courageous	Untroubled
Happy	1.00									
Liked	0.98	1.00								

Agreeable	0.96	0.93	1.00							
Proud	0.97	0.94	0.94	1.00						
Content	0.94	0.90	0.92	0.89	1.00					
Determined	0.50	0.58	0.48	0.43	0.52	1.00				
Calm	0.96	0.96	0.86	0.92	0.90	0.64	1.00			
Comfortable	0.96	0.98	0.91	0.92	0.89	0.68	0.97	1.00		
Courageous	0.93	0.93	0.85	0.85	0.92	0.68	0.96	0.96	1.00	
Untroubled	0.99	0.99	0.94	0.94	0.93	0.59	0.97	0.97	0.94	1.00

Direction cosines between Constructs and Elements

	Teacher You Like	Teacher You Dislike	Mother	Uncle	Brother	Pupil You Dislike	Self Speaking	Self Mute	Ideal Self
Happy	0.76	-0.94	0.77	-0.75	0.93	-0.98	0.97	-0.98	1.00
Liked	0.73	-0.96	0.79	-0.76	0.91	-0.99	0.99	-0.94	0.98
Agreeable	0.91	-0.91	0.64	-0.79	0.89	-0.90	0.92	-0.96	0.96
Proud	0.77	-0.89	0.71	-0.69	0.85	-0.93	0.94	-0.98	0.98
Content	0.75	-0.93	0.76	-0.70	0.98	-0.91	0.86	-0.96	0.92
Determined	0.37	-0.74	0.82	-0.73	0.58	-0.62	0.59	-0.43	0.53
Calm	0.60	-0.96	0.90	-0.74	0.92	-0.99	0.95	-0.92	0.96
Comfortable	0.70	-0.97	0.87	-0.86	0.91	-0.99	0.99	-0.92	0.96
Courageous	0.58	-0.95	0.91	-0.82	0.97	-0.96	0.93	-0.89	0.91
Untroubled	0.74	-0.97	0.81	-0.75	0.93	-0.99	0.97	-0.95	0.99

Note. Values reflect construct/element cosines (correlations) in the full component space.

Eigenvalue Decomposition

	Eigenvalue	% Variance	Cumulative %	Scree
PC_ 1	306.91	93.13	93.13	*****
PC_ 2	10.38	3.15	96.28	**
PC_ 3	5.20	1.58	97.86	*
PC_ 4	3.61	1.09	98.95	*
PC_ 5	1.52	0.46	99.41	*
PC_ 6	1.49	0.45	99.86	*
PC_ 7	0.36	0.11	99.97	*
PC_ 8	0.09	0.03	100.00	*

Element Loadings

	PC_1	PC_2
Teacher You Like	-1.97	-1.30
Teacher You Dislike	6.21	-0.80
Mother	-3.11	1.91
Uncle	1.80	-0.43
Brother	-5.65	0.43
Pupil You Dislike	8.46	-0.78
Self Speaking	-5.71	0.10
Self Mute	7.57	1.66
Ideal Self	-7.62	-0.80

Note. Values for plotting elements in the component space.

Element Eigenvectors

	PC_1	PC_2
Teacher You Like	-0.11	-0.40
Teacher You Dislike	0.35	-0.25
Mother	-0.18	0.59
Uncle	0.10	-0.13
Brother	-0.32	0.13
Pupil You Dislike	0.48	-0.24
Self Speaking	-0.33	0.03
Self Mute	0.43	0.52
Ideal Self	-0.43	-0.25

Construct Loadings

	PC_1	PC_2
Happy	-5.08	-0.53
Liked	-6.24	-0.01
Agreeable	-5.90	-1.66
Proud	-5.19	-1.18
Content	-5.42	-0.45
Determined	-1.47	1.46
Calm	-5.98	0.96
Comfortable	-6.52	0.72
Courageous	-5.97	1.47
Untroubled	-5.91	-0.04

Construct Eigenvectors

	PC_1	PC_2
--	------	------

Happy	-0.29	-0.16
Liked	-0.36	0.00
Agreeable	-0.34	-0.52
Proud	-0.30	-0.37
Content	-0.31	-0.14
Determined	-0.08	0.45
Calm	-0.34	0.30
Comfortable	-0.37	0.22
Courageous	-0.34	0.46
Untroubled	-0.34	-0.01

Note. Values for orienting (drawing) constructs in component space.

{Graph Created: Blank Grid / PC_1 vs. PC_2 (Slater)}

Slater Analyses for Rachel

Original Grid (Rachel)

	Teacher You Like	Teacher You Dislike	Mother	Father	Sister	Pupil You Dislike	Self Speaking	Self Mute	Ideal Self	
	
Loud	6.00	5.00	5.00	4.00	6.00	4.00	5.00	1.00	5.00	Withdrawn
Outgoing	5.00	5.00	7.00	4.00	6.00	5.00	4.00	2.00	6.00	Shy
Happy	6.00	5.00	7.00	6.00	7.00	5.00	6.00	3.00	7.00	Sad
Funny	4.00	5.00	4.00	4.00	6.00	3.00	4.00	1.00	5.00	Serious
Encouraging	6.00	4.00	7.00	7.00	6.00	3.00	4.00	4.00	5.00	Doubtful
Usual	7.00	6.00	7.00	6.00	7.00	4.00	6.00	1.00	6.00	Unusual
Relaxed	6.00	6.00	7.00	6.00	7.00	5.00	5.00	2.00	7.00	Terrified
Noisy	6.00	5.00	6.00	4.00	6.00	5.00	5.00	1.00	6.00	Silent
Talkative	6.00	6.00	7.00	5.00	6.00	6.00	5.00	1.00	6.00	Whispering
Able	6.00	5.00	7.00	6.00	6.00	5.00	5.00	2.00	6.00	Uptight

Descriptive Statistics for Elements [Rachel]

Means
| Sum of Squares

			Percent Total Sum of Squares
Teacher You Like	0.69	7.26	3.77
Teacher You Dislike	0.09	3.93	2.04
Mother	1.29	20.37	10.57
Father	0.09	6.37	3.31
Sister	1.19	15.59	8.09
Pupil You Dislike	-0.61	9.81	5.09
Self Speaking	-0.21	3.15	1.63
Self Mute	-3.31	118.15	61.32
Ideal Self	0.79	8.04	4.17

Note. Values are based upon deviation matrix in which construct means were removed from the original grid scores.

Total SS: 192.67

Element Euclidean Distances

	Teacher You Like	Teacher You Dislike	Mother	Father	Sister	Pupil You Dislike	Self Speaking	Self Mute	Ideal Self
Teacher You Like	0.00								
Teacher You Dislike	3.16	0.00							
Mother	3.16	5.10	0.00						
Father	3.46	4.00	4.69	0.00					
Sister	2.65	3.87	3.00	4.58	0.00				
Pupil You Dislike	5.20	3.32	6.71	5.20	6.48	0.00			

Self Speaking	3.32	2.24	5.74	3.61	4.69	3.16	0.00		
Self Mute	13.19	11.66	14.90	11.05	14.59	9.75	10.63	0.00	
Ideal Self	2.65	3.00	3.00	4.12	2.00	4.90	3.74	13.45	0.00

Element Euclidean Distances (standardized)

	Teacher You Like	Teacher You Dislike	Mother	Father	Sister	Pupil You Dislike	Self Speaking	Self Mute	Ideal Self
Teacher You Like	0.00								
Teacher You Dislike	0.46	0.00							
Mother	0.46	0.73	0.00						
Father	0.50	0.58	0.68	0.00					
Sister	0.38	0.56	0.43	0.66	0.00				
Pupil You Dislike	0.75	0.48	0.97	0.75	0.93	0.00			
Self Speaking	0.48	0.32	0.83	0.52	0.68	0.46	0.00		
Self Mute	1.90	1.68	2.15	1.59	2.10	1.40	1.53	0.00	
Ideal Self	0.38	0.43	0.43	0.59	0.29	0.71	0.54	1.94	0.00

Note. Values are standardized around the expected distance between random pairings of elements. For this grid: 6.94.

Descriptive Statistics for Constructs [(Rachel)]

	Means	Sum of Squares	Percent Total Sum of Squares
Loud	4.56	18.22	9.46
Outgoing	4.89	16.89	8.77
Happy	5.78	13.56	7.04
Funny	4.00	16.00	8.30
Encouraging	5.11	16.89	8.77
Usual	5.56	30.22	15.69
Relaxed	5.67	20.00	10.38
Noisy	4.89	20.89	10.84
Talkative	5.33	24.00	12.46
Able	5.33	16.00	8.30

Total SS: 192.67

Bias: 0.41

Variability: 0.52

Construct Correlations

	Loud	Outgoing	Happy	Funny	Encouraging	Usual	Relaxed	Noisy	Talkative	Able
Loud	1.00									
Outgoing	0.77	1.00								

Happy	0.83	0.84	1.00							
Funny	0.88	0.73	0.81	1.00						
Encouraging	0.37	0.42	0.61	0.36	1.00					
Usual	0.95	0.78	0.89	0.86	0.60	1.00				
Relaxed	0.87	0.91	0.93	0.89	0.56	0.92	1.00			
Noisy	0.95	0.90	0.88	0.82	0.33	0.90	0.91	1.00		
Talkative	0.88	0.91	0.81	0.77	0.33	0.87	0.91	0.95	1.00	
Able	0.84	0.87	0.93	0.75	0.65	0.92	0.95	0.89	0.92	1.00

Direction cosines between Constructs and Elements

	Teacher You Like	Teacher You Dislike	Mother	Father	Sister	Pupil You Dislike	Self Speaking	Self Mute	Ideal Self
Loud	0.89	0.41	0.70	-0.15	0.91	-0.48	0.01	-0.95	0.79
Outgoing	0.62	0.22	0.90	-0.18	0.82	-0.30	-0.48	-0.89	0.90
Happy	0.73	0.01	0.86	0.13	0.91	-0.62	-0.26	-0.92	0.91
Funny	0.63	0.51	0.60	-0.04	0.96	-0.57	-0.10	-0.88	0.85
Encouraging	0.58	-0.47	0.73	0.77	0.55	-0.87	-0.61	-0.47	0.32
Usual	0.90	0.25	0.82	0.13	0.92	-0.66	-0.15	-0.96	0.77
Relaxed	0.74	0.26	0.88	0.07	0.94	-0.55	-0.39	-0.97	0.92
Noisy	0.81	0.35	0.80	-0.24	0.87	-0.33	-0.13	-0.97	0.89
Talkative	0.75	0.39	0.84	-0.18	0.80	-0.25	-0.26	-0.96	0.84
Able	0.82	0.07	0.94	0.18	0.85	-0.54	-0.39	-0.95	0.83

Note. Values reflect construct/element cosines (correlations) in the full component space.

Eigenvalue Decomposition

	Eigenvalue	% Variance	Cumulative %	Scree
PC_ 1	161.57	83.86	83.86	*****
PC_ 2	16.03	8.32	92.18	***
PC_ 3	7.43	3.85	96.04	**
PC_ 4	3.94	2.04	98.08	*
PC_ 5	1.90	0.98	99.06	*
PC_ 6	1.31	0.68	99.74	*
PC_ 7	0.38	0.20	99.94	*
PC_ 8	0.12	0.06	100.00	*

Element Loadings

	PC_1	PC_2
Teacher You Like	-2.25	0.36
Teacher You Dislike	-0.52	-1.44
Mother	-3.97	1.25
Father	-0.03	2.35
Sister	-3.71	0.23
Pupil You Dislike	1.70	-2.23
Self Speaking	0.48	-0.87
Self Mute	10.83	0.83
Ideal Self	-2.52	-0.48

Note. Values for plotting elements in the component space.

Element Eigenvectors

	PC_1	PC_2
Teacher You Like	-0.18	0.09
Teacher You Dislike	-0.04	-0.36
Mother	-0.31	0.31
Father	0.00	0.59
Sister	-0.29	0.06
Pupil You Dislike	0.13	-0.56
Self Speaking	0.04	-0.22
Self Mute	0.85	0.21
Ideal Self	-0.20	-0.12

Construct Loadings

	PC_1	PC_2
Loud	-4.01	-0.71
Outgoing	-3.71	-0.43
Happy	-3.45	0.55
Funny	-3.51	-0.43
Encouraging	-2.21	3.44
Usual	-5.31	0.54
Relaxed	-4.38	0.20
Noisy	-4.38	-1.07
Talkative	-4.61	-1.09
Able	-3.85	0.62

Construct Eigenvectors

	PC_1	PC_2

Loud	-0.32	-0.18
Outgoing	-0.29	-0.11
Happy	-0.27	0.14
Funny	-0.28	-0.11
Encouraging	-0.17	0.86
Usual	-0.42	0.14
Relaxed	-0.34	0.05
Noisy	-0.34	-0.27
Talkative	-0.36	-0.27
Able	-0.30	0.16

Note. Values for orienting (drawing) constructs in component space.

{Graph Created: Rachel / PC_1 vs. PC_2 (Slater)}

Slater Analyses for Emily

Original Grid (Emily)

	Teacher You Like	Teacher You Dislike	Mother	Father-Figure	Brother/Sister	Pupill You Dislike	Self Speaking	Self Mute	Ideal Self	
Talkative	6.00	6.00	6.00	6.00	5.00	7.00	5.00	1.00	6.00	Not Talkative
Not Quiet/Loud	5.00	6.00	6.00	6.00	4.00	7.00	5.00	1.00	6.00	Quiet
Kind	6.00	1.00	7.00	7.00	7.00	2.00	6.00	6.00	7.00	Unkind
Talkative/Outgoing	6.00	6.00	6.00	6.00	4.00	7.00	6.00	1.00	6.00	Shy
Confident	7.00	7.00	6.00	6.00	6.00	7.00	6.00	1.00	6.00	Not Confident
Calm	6.00	3.00	6.00	5.00	6.00	4.00	5.00	5.00	7.00	Not Calm
Silly	4.00	4.00	6.00	6.00	5.00	5.00	6.00	2.00	5.00	Serious
Not Nervous	6.00	7.00	6.00	6.00	5.00	7.00	6.00	1.00	7.00	Nervous
Sensible	7.00	4.00	6.00	6.00	6.00	2.00	6.00	6.00	6.00	Not Sensible
Not Selfish	7.00	1.00	7.00	7.00	7.00	1.00	7.00	7.00	7.00	Selfish

Descriptive Statistics for Elements [Emily]

Means
| Sum of Squares

			Percent Total Sum of Squares
Teacher You Like	0.62	8.22	3.02
Teacher You Dislike	-0.88	54.11	19.89
Mother	0.82	8.44	3.10
Father-Figure	0.72	7.89	2.90
Brother/Sister	0.12	8.78	3.23
Pupill You Dislike	-0.48	59.44	21.85
Self Speaking	0.42	4.67	1.72
Self Mute	-2.28	109.22	40.16
Ideal Self	0.92	11.22	4.13

Note. Values are based upon deviation matrix in which construct means were removed from the original grid scores.

Total SS: 272.00

Element Euclidean Distances

	Teacher You Like	Teacher You Dislike	Mother	Father-Figure	Brother/Sister	Pupill You Dislike	Self Speaking	Self Mute	Ideal Self
Teacher You Like	0.00								
Teacher You Dislike	9.00	0.00							
Mother	2.83	9.54	0.00						
Father-Figure	3.00	9.27	1.00	0.00					
Brother/Sister	3.32	10.00	3.32	3.46	0.00				
Pupill You Dislike	9.43	3.16	9.33	9.17	10.39	0.00			

Self Speaking	2.83	8.77	2.00	1.73	3.00	9.00	0.00		
Self Mute	11.53	14.83	11.96	11.92	9.27	16.06	11.09	0.00	
Ideal Self	2.65	9.70	1.73	2.45	3.74	9.49	3.00	12.25	0.00

Element Euclidean Distances (standardized)

	Teacher You Like	Teacher You Dislike	Mother	Father-Figure	Brother/Sister	Pupill You Dislike	Self Speaking	Self Mute	Ideal Self
Teacher You Like	0.00								
Teacher You Dislike	1.09	0.00							
Mother	0.34	1.16	0.00						
Father-Figure	0.36	1.12	0.12	0.00					
Brother/Sister	0.40	1.21	0.40	0.42	0.00				
Pupill You Dislike	1.14	0.38	1.13	1.11	1.26	0.00			
Self Speaking	0.34	1.06	0.24	0.21	0.36	1.09	0.00		
Self Mute	1.40	1.80	1.45	1.45	1.12	1.95	1.34	0.00	
Ideal Self	0.32	1.18	0.21	0.30	0.45	1.15	0.36	1.49	0.00

Note. Values are standardized around the expected distance between random pairings of elements. For this grid: 8.25.

Descriptive Statistics for Constructs [(Emily)]

	Means	Sum of Squares	
			Percent Total Sum of Squares
Talkative	5.33	24.00	8.82
Not Quiet/Loud	5.11	24.89	9.15
Kind	5.44	42.22	15.52
Talkative/Outgoing	5.33	26.00	9.56
Confident	5.78	27.56	10.13
Calm	5.22	11.56	4.25
Silly	4.78	13.56	4.98
Not Nervous	5.67	28.00	10.29
Sensible	5.44	18.22	6.70
Not Selfish	5.67	56.00	20.59

Total SS: 272.00
 Bias: 0.47
 Variability: 0.61

Construct Correlations

	Talkative	Not Quiet/Loud	Kind	Talkative/Outgoing	Confident	Calm	Silly	Not Nervous	Sensible	Not Selfish
Talkative	1.00									
Not Quiet/Loud	0.97	1.00								

Kind	-0.26	-0.32	1.00								
Talkative/Outgoing	0.96	0.97	-0.28	1.00							
Confident	0.96	0.89	-0.30	0.92	1.00						
Calm	-0.04	-0.13	0.87	-0.10	-0.09	1.00					
Silly	0.70	0.72	0.25	0.73	0.65	0.20	1.00				
Not Nervous	0.96	0.96	-0.31	0.96	0.95	-0.07	0.68	1.00			
Sensible	-0.35	-0.44	0.84	-0.34	-0.27	0.70	-0.01	-0.34	1.00		
Not Selfish	-0.38	-0.45	0.97	-0.37	-0.37	0.81	0.12	-0.40	0.92	1.00	

Direction cosines between Constructs and Elements

	Teacher You Like	Teacher You Dislike	Mother	Father-Figure	Brother/Sister	Pupill You Dislike	Self Speaking	Self Mute	Ideal Self
Talkative	0.25	0.39	0.38	0.38	-0.52	0.59	0.08	-0.99	0.41
Not Quiet/Loud	0.08	0.44	0.36	0.37	-0.65	0.66	0.08	-0.97	0.36
Kind	0.51	-0.99	0.76	0.68	0.83	-0.89	0.62	0.24	0.67
Talkative/Outgoing	0.23	0.39	0.39	0.40	-0.62	0.58	0.22	-0.98	0.38
Confident	0.35	0.42	0.30	0.31	-0.46	0.55	0.14	-0.97	0.33
Calm	0.64	-0.85	0.72	0.51	0.69	-0.70	0.39	0.04	0.86
Silly	0.15	-0.13	0.77	0.81	-0.09	0.13	0.66	-0.76	0.54
Not Nervous	0.23	0.44	0.33	0.33	-0.58	0.59	0.14	-0.98	0.41
Sensible	0.72	-0.82	0.52	0.49	0.75	-0.94	0.58	0.31	0.49
Not Selfish	0.55	-0.98	0.65	0.60	0.84	-0.96	0.65	0.34	0.57

Note. Values reflect construct/element cosines (correlations) in the full component space.

Eigenvalue Decomposition

	Eigenvalue	% Variance	Cumulative %	Scree
PC_1	167.65	61.64	61.64	*****
PC_2	88.39	32.50	94.13	*****
PC_3	7.27	2.67	96.80	**
PC_4	4.55	1.67	98.48	*
PC_5	2.19	0.80	99.28	*
PC_6	1.01	0.37	99.65	*
PC_7	0.80	0.29	99.95	*
PC_8	0.14	0.05	100.00	*

Element Loadings

	PC_1	PC_2
Teacher You Like	-0.48	-1.98
Teacher You Dislike	5.98	4.10
Mother	-0.37	-2.77
Father-Figure	-0.23	-2.51
Brother/Sister	-2.49	-0.89
Pupill You Dislike	7.06	2.78
Self Speaking	-0.52	-1.54
Self Mute	-8.67	5.82
Ideal Self	-0.27	-3.00

Note. Values for plotting elements in the component space.

Element Eigenvectors

	PC_1	PC_2
Teacher You Like	-0.04	-0.21
Teacher You Dislike	0.46	0.44
Mother	-0.03	-0.29
Father-Figure	-0.02	-0.27
Brother/Sister	-0.19	-0.09
Pupill You Dislike	0.55	0.30
Self Speaking	-0.04	-0.16
Self Mute	-0.67	0.62
Ideal Self	-0.02	-0.32

Construct Loadings

	PC_1	PC_2
Talkative	4.13	-2.54
Not Quiet/Loud	4.35	-2.24
Kind	-4.75	-4.33
Talkative/Outgoing	4.28	-2.61
Confident	4.32	-2.58
Calm	-1.77	-2.40
Silly	1.50	-2.81
Not Nervous	4.53	-2.59
Sensible	-3.14	-2.26
Not Selfish	-6.04	-4.39

Construct Eigenvectors

	PC_1	PC_2

Talkative	0.32	-0.27
Not Quiet/Loud	0.34	-0.24
Kind	-0.37	-0.46
Talkative/Outgoing	0.33	-0.28
Confident	0.33	-0.27
Calm	-0.14	-0.26
Silly	0.12	-0.30
Not Nervous	0.35	-0.28
Sensible	-0.24	-0.24
Not Selfish	-0.47	-0.47

Note. Values for orienting (drawing) constructs in component space.

{Graph Created: Emily / PC_1 vs. PC_2 (Slater)}

Slater Analyses for Mary

Original Grid (Mary)

	Teacher You Like	Teacher You Dislike	Mother	Father	Sibling	Pupil You Dislike	Self Speaking	Self Mute	Ideal Self	
	
Helpful	7.00	2.00	6.00	4.00	3.00	1.00	6.00	4.00	7.00	Uncooperative
Friendly	7.00	1.00	7.00	4.00	4.00	2.00	5.00	3.00	6.00	Distant
Interested	7.00	4.00	7.00	3.00	2.00	2.00	6.00	5.00	6.00	Uncaring
Sensitive	5.00	4.00	4.00	6.00	7.00	1.00	7.00	7.00	5.00	Insensitive
Patient	7.00	3.00	6.00	1.00	3.00	4.00	3.00	7.00	6.00	Intolerant
Sociable	3.00	3.00	6.00	1.00	5.00	5.00	5.00	1.00	5.00	Reserved
Passive	6.00	3.00	6.00	5.00	7.00	2.00	3.00	7.00	5.00	Bossy
Relaxed	4.00	5.00	5.00	4.00	3.00	2.00	4.00	1.00	6.00	Tense
Sympathetic	5.00	3.00	5.00	3.00	6.00	1.00	6.00	5.00	5.00	Cold
Respectful	7.00	5.00	7.00	5.00	6.00	1.00	6.00	7.00	7.00	Disrespectful

Descriptive Statistics for Elements [Mary]

	Means	Sum of Squares	Percent Total Sum of Squares
Teacher You Like	1.26	29.74	9.94
Teacher You Dislike	-1.24	28.74	9.60
Mother	1.36	28.52	9.53
Father	-0.94	25.74	8.60
Sibling	0.06	24.41	8.15
Pupil You Dislike	-2.44	87.41	29.20
Self Speaking	0.56	18.30	6.11
Self Mute	0.16	34.30	11.46
Ideal Self	1.26	22.19	7.41

Note. Values are based upon deviation matrix in which construct means were removed from the original grid scores.

Total SS: 299.33

Element Euclidean Distances

	Teacher You Like	Teacher You Dislike	Mother	Father	Sibling	Pupil You Dislike	Self Speaking	Self Mute	Ideal Self
Teacher You Like	0.00								
Teacher You Dislike	10.25	0.00							
Mother	3.61	9.80	0.00						
Father	9.17	5.57	9.64	0.00					

Sibling	8.83	7.55	8.31	6.16	0.00				
Pupil You Dislike	13.67	7.07	12.88	9.85	11.00	0.00			
Self Speaking	6.40	7.75	6.00	7.00	6.56	11.92	0.00		
Self Mute	6.86	8.83	8.72	7.94	7.00	12.57	8.25	0.00	
Ideal Self	3.46	9.00	2.65	8.72	8.00	12.85	5.00	8.31	0.00

Element Euclidean Distances (standardized)

	Teacher You Like	Teacher You Dislike	Mother	Father	Sibling	Pupil You Dislike	Self Speaking	Self Mute	Ideal Self
Teacher You Like	0.00								
Teacher You Dislike	1.18	0.00							
Mother	0.42	1.13	0.00						
Father	1.06	0.64	1.11	0.00					
Sibling	1.02	0.87	0.96	0.71	0.00				
Pupil You Dislike	1.58	0.82	1.49	1.14	1.27	0.00			
Self Speaking	0.74	0.90	0.69	0.81	0.76	1.38	0.00		
Self Mute	0.79	1.02	1.01	0.92	0.81	1.45	0.95	0.00	
Ideal Self	0.40	1.04	0.31	1.01	0.92	1.48	0.58	0.96	0.00

Note. Values are standardized around the expected distance between random pairings of elements. For this grid: 8.65.

Descriptive Statistics for Constructs [(Mary)]

	Means	Sum of Squares	Percent Total Sum of Squares
Helpful	4.44	38.22	12.77
Friendly	4.33	36.00	12.03
Interested	4.67	32.00	10.69
Sensitive	5.11	30.89	10.32
Patient	4.44	36.22	12.10
Sociable	3.78	27.56	9.21
Passive	4.89	26.89	8.98
Relaxed	3.78	19.56	6.53
Sympathetic	4.33	22.00	7.35
Respectful	5.67	30.00	10.02

Total SS: 299.33
 Bias: 0.26
 Variability: 0.64

Construct Correlations

Helpful	Friendly	Interested	Sensitive	Patient	Sociable	Passive	Relaxed	Sympathetic	Respectful

Helpful	1.00										
Friendly	0.91	1.00									
Interested	0.87	0.74	1.00								
Sensitive	0.39	0.23	0.17	1.00							
Patient	0.49	0.46	0.66	-0.07	1.00						
Sociable	0.15	0.34	0.15	-0.34	0.09	1.00					
Passive	0.39	0.46	0.23	0.59	0.43	-0.23	1.00				
Relaxed	0.51	0.44	0.45	-0.07	-0.08	0.37	-0.14	1.00			
Sympathetic	0.68	0.60	0.53	0.79	0.31	0.19	0.63	0.18	1.00		
Respectful	0.78	0.64	0.71	0.70	0.47	-0.09	0.73	0.34	0.86	1.00	

Direction cosines between Constructs and Elements

	Teacher You Like	Teacher You Dislike	Mother	Father	Sibling	Pupil You Dislike	Self Speaking	Self Mute	Ideal Self
Helpful	0.89	-0.78	0.76	-0.40	-0.33	-0.80	0.53	0.00	0.89
Friendly	0.85	-0.88	0.87	-0.42	-0.19	-0.66	0.38	-0.13	0.82
Interested	0.88	-0.57	0.80	-0.59	-0.58	-0.66	0.42	0.08	0.82
Sensitive	0.21	-0.43	-0.06	0.18	0.50	-0.79	0.48	0.50	0.10
Patient	0.77	-0.55	0.62	-0.80	-0.39	-0.31	-0.21	0.46	0.54
Sociable	0.00	-0.19	0.56	-0.62	0.07	0.13	0.33	-0.65	0.42
Passive	0.52	-0.67	0.34	-0.13	0.43	-0.69	-0.20	0.62	0.25
Relaxed	0.26	-0.01	0.53	-0.10	-0.31	-0.35	0.37	-0.64	0.72
Sympathetic	0.52	-0.71	0.49	-0.39	0.35	-0.87	0.58	0.28	0.54
Respectful	0.73	-0.64	0.57	-0.32	0.05	-0.98	0.33	0.39	0.67

Note. Values reflect construct/element cosines (correlations) in the full component space.

Eigenvalue Decomposition

	Eigenvalue	% Variance	Cumulative %	Scree
PC_1	159.18	53.18	53.18	*****
PC_2	58.37	19.50	72.68	*****
PC_3	35.95	12.01	84.69	***
PC_4	21.78	7.28	91.97	**
PC_5	12.17	4.06	96.03	**
PC_6	9.63	3.22	99.25	**
PC_7	2.05	0.69	99.93	*
PC_8	0.20	0.07	100.00	*

Element Loadings

	PC_1	PC_2
Teacher You Like	-4.88	0.95
Teacher You Dislike	4.46	0.16
Mother	-4.20	2.87
Father	2.52	-2.58
Sibling	0.65	-3.08
Pupil You Dislike	8.42	3.34
Self Speaking	-1.76	0.32
Self Mute	-1.30	-4.14
Ideal Self	-3.91	2.16

Note. Values for plotting elements in the component space.

Element Eigenvectors

	PC_1	PC_2
Teacher You Like	-0.39	0.12
Teacher You Dislike	0.35	0.02
Mother	-0.33	0.38
Father	0.20	-0.34
Sibling	0.05	-0.40
Pupil You Dislike	0.67	0.44
Self Speaking	-0.14	0.04
Self Mute	-0.10	-0.54
Ideal Self	-0.31	0.28

Construct Loadings

	PC_1	PC_2
Helpful	-5.80	1.11
Friendly	-5.21	1.71
Interested	-4.80	1.88
Sensitive	-2.87	-4.29
Patient	-3.62	1.42
Sociable	-0.65	3.60
Passive	-3.25	-2.83
Relaxed	-1.68	2.12
Sympathetic	-3.86	-1.48
Respectful	-5.02	-1.63

Construct Eigenvectors

	PC_1	PC_2
Helpful	-0.46	0.14
Friendly	-0.41	0.22
Interested	-0.38	0.25
Sensitive	-0.23	-0.56
Patient	-0.29	0.19
Sociable	-0.05	0.47
Passive	-0.26	-0.37
Relaxed	-0.13	0.28
Sympathetic	-0.31	-0.19
Respectful	-0.40	-0.21

Note. Values for orienting (drawing) constructs in component space.

{Graph Created: Mary / PC_1 vs. PC_2 (Slater)}

Appendix 9

Experience Cycle category coding

Participant	CODER ONE	CODER TWO
Louise Anticipation Investment Dis/confirmation Reconstruction	Tight Prediction High Investment Invalidation Minimal Revision	Tight Prediction High Investment Invalidation Minimal Revision
Emily Anticipation Investment Dis/confirmation Reconstruction	Loose Prediction High Investment Invalidation Sig Revision	Tight Prediction High Investment Invalidation Sig Revision
Abbie Anticipation Investment Dis/confirmation Reconstruction	Tight Prediction High Investment Invalidation Sig Revision	Tight Prediction High Investment Invalidation Sig Revision
Mary Anticipation Investment Dis/confirmation Reconstruction	Tight Prediction Low Investment Validation Minimal Revision	Tight Prediction Low Investment Validation Minimal Revision
Holly Anticipation Investment Dis/confirmation Reconstruction	Tight Prediction High Investment Invalidation Min Revision	Tight Prediction High Investment Invalidation Sig Revision
Rachel Anticipation Investment Dis/confirmation Reconstruction	Tight Prediction High Investment Invalidation Minimal Revision	Tight Prediction High Investment Invalidation Minimal Revision

Appendix 10

Content Analysis Coding

Participant and Constructs	Rater One (Area and Category Code)	Rater Two (Area and Category Code)
Louise		
Knowledgeable-ignorant	5B	5B
Confident-awkward	4I	2D
Thoughtful-unthinking	2B	4G
Sympathetic-insensitive	2B	1B
Informed-unaware	0A	5C
Secure-insecure	4I	4I
Focused-distracted	5D	5D
Composed-anxious	4D	2D
Caring-cold	2B	2B
Friendly-alooof	3B	2B
Mary		
Helpful-uncooperative	3H	4F
Friendly-distant	3B	2B
Invested-caring	3H	2B
Sensitive-insensitive	3H	2B
Patient-intolerant	2D	3D
Sociable-reserved	3A	3A
Passive-bossy	3E	3D
Relaxed-tense	2D	2D
Sympathetic-cold	3H	3H
Respectful-disrespectful	1D	1D
Holly		
Happy-depressed	2E	2E
Liked-hated	3A	3B
Agreeable-stubborn	3B	4F
Proud-disappointed	0B	0C
Content-uncomfortable	2D	4I
Determined-discouraged	4C	4E
Calm-uptight	2D	2D
Comfortable-anxious	2D	2D
Courageous-nervous	4A	4A
Untroubled-worried	2D	2D
Emily		
Talkative-not talkative	3A	3A
Not quiet/loud-quiet	3A	3A
Kind-unkind	1B	1F
Talkative/outgoing-shy	3A	3A
Confident-not confident	4I	4I
Calm-not calm	2D	2D
Silly-serious	4H	4H
Not nervous-nervous	2E	2D
Sensible-not sensible	2A	3E
Not selfish-selfish	1B	1B

Participant and Constructs	Rater One (Area and Category Code)	Rater Two (Area and Category Code)
Abbie		
Humble-cocky	1C	1C
Knowledgeable-uninformed	5C	5C
Thoughtful-inconsiderate	4G	4G
Friendly-awkward	2B	3A
Intelligent-inexperienced	5B	5B
Outgoing-quiet	3A	3A
Humorous-dull	4H	3B
Talkative-reserved	3A	3A
Modest-egocentric	1C	1C
Chatty-silent	3A	3A
Rachel		
Loud-withdrawn	3A	3A
Outgoing-shy	3A	3A
Happy-sad	2E	2E
Funny-serious	4H	2B
Encouraging-doubtful	3O	2C
Usual-unusual	4O	5E
Relaxed-terrified	2E	2D
Noisy-silent	3A	3A
Talkative-whispering	3A	3C
Able-uptight	4F	5A

Appendix 11

Title of project: Personal Constructs of Adolescents with Selective Mutism

DEBRIEFING SHEET

Thank you very much for making this study possible.

This study is investigating selective mutism in adolescents. It seeks to find out how adolescents with selective mutism make sense of their speaking and not speaking experiences. Current thinking sees selective mutism as an anxiety disorder, which means that treatment is focused on enabling children to speak. However, for those children who have reached adolescence without implementation of a successful intervention, life can be tricky as selective mutism may impact on social relationships, employment and progress into independent adulthood.

This study aims to look at the *meaning* behind speaking or not speaking for those adolescents with selective mutism. This research may help clinical psychologists and other healthcare professionals to think about new methods of treating selective mutism.

It is hoped that this research will lead to a better understanding of the psychological factors associated with selective mutism and will add to the current understanding of psychological theory and treatment.

If you would like to talk further about any of the issues raised in this study, please contact your GP. Alternatively, you may call the researcher on 07940 393012 OR you may benefit from accessing the following sources of support:



Selective Mutism

Selective Mutism Information and Research Association (SMIRA)

Website address: www.selectivemutism.co.uk

The website contains links to other sources of support and information as well as a members' forum.

Emotional Support

Samaritans

Website address: www.samaritans.org

Email: jo@samaritans.org

Tel: 08457 90 90 90

Childline

Website address: www.childline.org.uk

Tel: 0800 11 11

Abuse

Mosac

Website address: www.mosac.org.uk

Tel: 0800 980 1958

A voluntary organisation providing support for parents and carers of children who have been sexually abused.



NSPCC

Website address: www.nspcc.org.uk

Tel: 0808 800 5000

Anxiety

Anxiety UK

Website address: www.anxietyuk.org.uk

Email: support@anxietyuk.org.uk

Tel: 08444 775 774

Provides information, support and advice for people suffering with anxiety.

Divorce/Separation

Divorce Aid

Website address: www.divorceaid.co.uk

Provides support and advice for parents and children of divorce.

It's Not Your Fault

Website address: www.itsnotyourfault.org

Practical information for children, young people and parents going through a family break-up.

Loss and Bereavement

Cruse

Website address: www.crusebereavementcare.org.uk

Email: info@cruse.org.uk

Tel: 020 8 939 9530

Domestic Violence

The Hideout

Website address: www.thehideout.org.uk

Advice and information for children and young people affected by violence in the home.

Would you like to know the results of this research?

If so, please send your name together with *either* your email address or postal address to the researcher (fionapatz@aol.com), and the results will be sent to you when the project is completed.