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Self-concept and Theory of Mind in the classroom

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ABSTRACT

This study investigated the relationship between theory of mind, endorsement of the looking-glass self and aspects of self-concept through a questionnaire measure within a classroom setting. Participants were adolescents from six schools across England (*N*= 184), with a mean age of 12.06. Endorsement of the looking-glass self was examined; half of the sample supported the model but it was found to relate to poor leadership skills and low popularity. The study also examined whether endorsement of the looking-glass self and better theory of mind were related to self-other agreement, the results suggested that this was the case for the former, with the necessity of further research, but no relationship was found for the latter. The consequences of self-other congruence were explored: incongruence equated to greater aggression and less favourability among classmates. Last, the relationship between theory of mind and current/ideal-self discrepancy was examined; a significant relationship was found but could be explained by co-varying effects of verbal ability. Implications and suggestions for future research are discussed.

KEY WORDS: | LOOKING-GLASS | CONGRUENCE | SELF | THEORY OF MIND | CLASSROOM

Background

Theory of Mind in adolescence. Theory of Mind concerns understanding of mental states- what we know about thoughts and beliefs both in ourselves and in others (Miller, 2009); it is also referred to as mentalizing (Frith & Frith, 2003), mind-reading (Baron-Cohen, 1995) and cognitive-perspective taking (Holmes, McHugh & Barnes-Holmes, 2004). Theory of mind typically emerges in early childhood (Farrar, 2002). To date, research has focused heavily on the preschool years and delays in theory of mind development in children with autism. However, whilst it is still in its infancy there is new evidence to suggest that development continues through to adolescence (Bartsch & London, 2000; Dumontheil, Apperly & Blakemore, 2010) with measurable individual differences apparent in the typically developing population (O'Connor & Hirsch, 1999). Very recently, Devine and Hughes (2011) produced an advanced measure of theory of mind in order to assess individual differences in late childhood and early adolescence; to validate this new measure further testing is required. They found that theory of mind related to social competence at school; supporting this, Bosacki and Astington (1999) found positive associations between theory of mind and peer ratings of social-interaction skills. This suggests that individual differences beyond childhood may be important. The first aim of this study is to add to the growing literature concerning individual differences in theory of mind during adolescence.

Self-concept importance and adolescence. Echoed throughout the centuries is the value of having a coherent, stable, and accurate self-concept (mental image of one's worth, capabilities, and limitations; Mosby, 2009). From the Ancient Greek aphorism "know thyself" (Kim, Chiu & Zou, 2010, p.395) to the Socratic adage that accurate knowledge of oneself is the highest human virtue (Sedikides, Green & Pinter, 2004); indeed, Chaucer declares "Ful wys is he that kan hymselven knowe" (Burns, 1991, p.162). In the West particularly there is an impulse to "discover and express (one's) attributes" (Markus & Kitayama, 1991, abstract) - as illustrated by the fascination with personality tests, consultation of horoscopes, investment in therapy, use of meditation and concern with the feedback of others (Baumeister & Bushman, 2007). Self-knowledge is fundamental for psychological survival (McKay & Fanning, 2009): an accurate self-concept allows individuals to comprehend their past (Burns, 1979), predict and control their future (Kelly, 1955), make decisions and shape their expectations (Beaumont, 2009); it is the backbone to self-regulation (Hall, 2003).

Adolescence is a pivotal time in development when one is confronted with a need for self-definition (Kroger, 2004); individuals re-examine and re-evaluate themselves physically, socially and emotionally (Erickson, 1956, cited by Burns, 1979). The idea of an "identity crisis" (Harter, 1986) connects to the storm and stress model of puberty (Arnett, 1999; cited by Ybrandt, 2008). Adolescents often display heightened self-consciousness and some a morbid preoccupation with Goffman's (1959) "imaginary audience" (cited by Harter, 1990). It is during this period that individuals must learn to think abstractly (Higgins, 1991; cited by Harter, 1999) and gain social competence (Liddle & Nettle, 2006); failure to do so can lead to stunted academic achievement,

unsuccessful romantic relationships, and adjustment disorders-, which may harm later development.

Formation of self-concept. Whilst theories concerning self-concept formation are vast (e.g. Freud, Kohlberg, Piaget, Montessori etc.) a prominent suggestion comes from social interactionism. Those who advocate this perspective argue, "No man is an island, society gives shape and meaning to individual self-conceptualisation" (Burns, 1979, p.16); in other words, man is a product of his social interactions: interpersonal identity precedes self-awareness and, consequently, self-conceptualisation (Sedikides & Brewer, 2001). This proposal is one of the "most exciting and theoretically rich ideas of psychology" (Fine 1990, p.2). It is an idea clearly conceptualised by Cooley (1902) who proposed the 'Looking-glass self', the notion that we use significant others as a mirror to see ourselves, reflecting on their appraisals in order to shape our self-concept. Mead (1962; cited by Harter, 1999) developed this idea, suggesting that we crystallise the views of significant others into a single standpoint, the 'generalised other'. This study will directly examine whether individuals endorse the looking-glass self model.

Early adolescence is a particularly relevant stage to explore the influence of others on the formation of the self. Broderick and Blewitt (2006) point out that young children fail to use others' perspectives as guides for the evaluation of their own behaviour; however, perspective taking increases with age. During adolescence the looking-glass self plays a greater role in self-concept since individuals understand that others are making comparisons and judgements (Sebastion, Burnet & Blakemore, 2008). Equally, categorisation, direct feedback, and formation of in- and out-groups during adolescence provide evaluative contexts (Burns, 1979) meaning the looking-glass self can be easily utilised.

Peers have notable influence, their impact generally peaking around mid-adolescence (Sebastian, C., Burnet, S. & Blakemore, 2008); I will therefore examine whether peers affect adolescents' self-concept through the looking-glass self. The study will take place within schools since they provide closed, full-time environments in which the bulk of adolescent interactions occur. This satisfies Marsh and Richards' (1990) advice that self-other agreement can only be studied if individuals know each other well and observe a large range of behaviour. Classes can act as Mead's 'generalised other' and it has been shown that support from friends in general rather than from a few significant others can be highly predictive of self-esteem (Harter, 1999).

The Looking Glass self and Theory of Mind. Shrauger and Schoeneman (1979) found that we do not see ourselves as others see us, but as we *think* others see us; thus, we build our identity on reflected appraisals. Similarly, Jussim, Soffin, Brown, Ley and Kohlhepp (1992) argue that whether others' appraisals are acknowledged and adopted depends on the level of awareness individuals have concerning others' beliefs and opinions. Fonagy et al. (1991; cited by O'Connor & Hirsch, 1999) have suggested that the sophistication with which individuals are able to reflect on mental states is a key correlate of resilience, social competence and well-being. This suggests that competent and accurate awareness of the thoughts and beliefs of others

could lead to competent self-awareness and, consequently, a coherent self-concept. It is theoretically plausible that theory of mind embodies this awareness concerning others' thoughts; thus, is it possible that it could provide the infrastructure for the conception of the self (Wellman, 1990; cited by Bosacki, 2000)? As outlined by Sebastian, Burnet and Blakemore (2008) increased awareness of others' perspectives might provide additional information from which to construct the self-concept.

Race, gender and context have all been found to affect the congruency of self and other perceptions (Ostroff, Atwater & Feinberg, 2004) but this study will seek to explore the possibility that advanced awareness of others' opinions affects self-other agreement, an idea that has been little explored (Bosacki, 2000). Support comes from a number of different studies. First, neuroimaging studies show that thinking about the self activates the dorsal medial prefrontal cortex, an area that develops in adolescence and relates to emotion understanding and perspective taking (Ochsner, et al. 2005). Equally, Jenkins and Astington (2000) found that theory of mind relates to interpersonal sensitivity; replicated by Cutting and Dunn's (2002) study of primary school children. Advanced theory of mind led to greater ability to "read into" what teachers said, enhanced sensitivity towards criticism (Hughes & Leekman, 2004) and a tendency to downgrade self-appraisals; this study intends to establish evidence beyond early childhood. An exploratory study (Burbridge, 2010) found that better theory of mind was associated with other-awareness in adolescence and affected self-concept.

Categories of self-concept accuracy. In their study of self-other agreement, Atwater and Yammarino (1997) categorised individuals into four groups: "Overestimators", "Underestimators", "In agreement, good" and "In agreement, poor". Compared with peer ratings, "Overestimators" exaggerate the extent to which they possess a particular trait. Atwater and Yammarino (1997) state such individuals have unrealistic optimism, arrogance and a lack of self-awareness that negatively affects interpersonal relationships. Feshbach (1975) suggests that if self-perceptions differ from reflected appraisals it is difficult to manage relationships and adapt behaviour. On the other hand "Underestimators" have self-ratings that are, according to peer ratings, overly modest; such individuals often lack self esteem and work hard to compensate for their perceived failures. Hartup (1983) advises that extremes of both high and low self-esteem can be problematic and lead to friendship difficulties; similarly, Dodge (1993; Cited by O'Connor & Hirsch, 1999) found that poor social status and socio-emotional maladjustment strongly relate to the misattribution of others' mental states. In between "Overestimators" and "Underestimators" are those who are in agreement- either in a positive or negative manner; this is identified as the optimal since it suggests a level of understanding between the self and other.

To ensure realistic expectations of one's self, Atwater and Yammarino (1997) stress that agreement with others is important. However, Baumeister (1991) argues that continual reliance on others can be aversive, inhibiting the development of an internalised, stable sense of self (Damon & Hart, 1988). Robinson and Harter (1991) found that those who endorsed the looking-glass self model reported *lower* self-worth and *lower* levels of peer approval. This is particularly apparent when it is a negative self-concept being reinforced:

Ybrandt (2008) found that negative feedback and a negative self-concept can manifest in externalising and internalising behaviours, particularly aggression, anxiety, and depressive symptoms (Raty et al. 2005; cited by Ybrandt, 2008). Thus, this study shall seek to confirm when self-other agreement leads to positivity and contentment verses loneliness, aggression, and dissatisfaction.

Current-self and ideal-self discrepancy. As well as highlighting the importance of self-other agreement, literature has also shown that discrepancy between one's current self and ideal self is highly significant. Harter (1989; cited by Rayner & Devi, 2001) argued that any measure of self-concept should give attention to such discrepancy.

The magnitude of disparity provides a primary index of maladjustment (Rogers & Dymond, 1954; cited by Harter, 1999). Individuals who suffer psychological disequilibrium (Marsh & Richards, 1990) may be vulnerable to feelings of disappointment, sadness, and dissatisfaction (Cobb, Cohen, Rubin & Houston, 1998), and a lingering sense that "something must be wrong with me" (Janos, Fung & Robinson, 1985, p.78).

Loneliness is an important issue in adolescence, since chronic loneliness has roots in childhood and there are links to suicide and self-harm (Ybrandt, 2008). Asher and Paquette, (2003, p.75) define loneliness as a "cognitive awareness of deficiency in one's social and personal relationships" suggesting that awareness of self-discrepancy has notable effects. Support comes from Silvia and Gendolla (2001) who state that self-focusing leads to clear perceptions of internal states, emotions, and traits, making individuals more aware of discrepancies and motivating them to change. A lack of self-awareness can lead to self-concept confusion, low self-esteem, mental health problems, and maladaptations (Baumeister, 1999). Banerjee and Yuill (1999; cited by Bosacki, 2000) found links between theory of mind and self-understanding; thus, this study will also assess whether greater theory of mind, and thus awareness of mental states such as loneliness, leads to a greater desire to change- greater discrepancy between perceived and ideal self.

In summary, this study has four main aims:

1. To add to the literature concerning individual differences in theory of mind beyond childhood.

2. To examine whether adolescents' endorsement of the looking-glass self relates to self and other ratings of social competence and inclusion.

3. To explore the consequences of an accurate self-concept by comparing the outcomes of those with self-concepts congruent with others' appraisals, to those who are incongruent. Is ignorance bliss or detrimental?

4. To test whether individual differences in theory of mind and endorsement of the looking-glass self relate to self-other agreement and current/ideal self discrepancies. Based upon the literature it is expected that better theory of mind and endorsement of the looking glass self will lead to greater

congruency between self and other ratings and also greater awareness of current/ideal-self discrepancies.

Method

Participants

This study utilised convenience sampling, recruiting schools from a pilot study (Burbridge, 2010) and via personal contacts. In total, participants comprised of 184 students from six schools across England (two primary, four secondary-including one private school, one all-girls' school) with a mean age of 12.06 (*SD*= 1.15); see Table 1 for details.

Table 1

Sample descriptive statistics.

School	Age groups				No. students	Gender		First Language	
	10-11	11-12	12-13	13-14		Male	Female	English	Other
A	-	28	-	-	28	16	12	24	4
B	-	-	-	25	25	15	10	25	-
C	21	-	-	-	21	12	9	21	-
D	-	-	28	-	28	-	28	27	1
E	25	-	-	-	25	12	13	24	1
F	-	31	26	-	57	29	26	50	7
Totals	46	59	54	25	184	84	98	171	13

Socioeconomic Status. Questions from the Family Affluence Scale (Currie et al. 2008) concern whether participants have their own bedrooms, and how many cars, computers and holidays each family has; these items combine to form a self-reported index of socioeconomic status; see Currie et al. (2008, p. 1431) for information on scoring. Anderson et al. (2008) found high levels of child-parent agreement. Boyce, Torsheim, Currie and Zambron (2006) found the scale was stable and internally consistent with good criterion validity. They trialled the scale in a survey entitled 'Health Behaviour in School-aged Children' (2001/2), looking at the socioeconomic status of 162,305 adolescents. The average for England was 5.3 (*SD* not provided by authors), the average for this sample was 6.7 (*SD*= 1.86, Range= 7), a one-sample t-test showed that this difference in means was significant but very small: *t* (182) =10.2, p<.001, 95% *CI*= 1.13 to 1.68, eta squared= .006.

Verbal Ability. The Word Reasoning Test from the Weschler Intelligence Scale provided an index of verbal ability. Individual assessments are usually employed but were not feasible given the study's time constraints. A paper version of the test was created and administered to the whole class; classrooms were closely monitored to ensure participants did not work together. Participants read a series of 24 clues and were asked to identify answers for each, for example: [Q] This is used to dry yourself after a bath, [A]

A towel. Participants received a score of [1] if they gave an appropriate answer and a score of [0] if they did not (Weschler, 2003). These scores were standardised according to the UK norms in order to compare verbal ability across age groups. A one-sample t-test was conducted and no significant difference was found between the sample average (*M*= 9.8, *SD*= 3.1) and the expected sample average (*M*=10, *SD*=3), *t* (167) =-.82, p>.05; thus it can be assumed that the verbal ability of the sample is representative of the normal population.

Design. A cross-sectional approach was used to take a 'snapshot' of pupils' abilities, relationships and self-reported feelings (Shuttleworth, 2009). Considering time constraints, this was the most practical approach, allowing for a large sample size and consequent power in statistical tests; it was also supported by reports of moderate test-retest reliability for each measure used.

A questionnaire format followed "ethical guidelines [that] call on researchers to use methods which are non-invasive, non-confrontational and participatory" when studying children (Morrow and Richards, 2002, p.274). It also reduced complexity and potential stress for the participating child, which increased the validity of results by eliminating the need for teacher or friend input.

Ethical Considerations. The project gained consent from the Cambridge Psychology Ethics Committee, adhering to the British Psychological Society (BPS) ethical guidelines.

To ensure children understood what participation would entail they were given a summary of the study, they then indicated their consent by responding to a checklist based on BPS guidelines. Name codes were utilised in order to preserve anonymity.

Passive parental consent was considered appropriate since the participants were deemed competent and old enough to make their own decisions; equally, BPS ethical guidelines (2004, p.8) state that active parental consent is only necessary if the school requests it. Active parental consent can affect the quality of the data collected: it has a large, negative effect on participation rates (Eaton, Lowry, Brener, Grunbaum & Kann, 2004) and can lead to selection bias (Anderman et al., 1995). Parents were sent a letter detailing the study aims and were asked to contact the school if they were against their child's involvement; very few parents did so and equally very few (less than 3%) children opted to withdraw- where non-participation occurred it was largely due to absenteeism.

Measures

Self-rated Loneliness. Cassidy and Asher's (1992) 16 item "Loneliness and Social Dissatisfaction Scale" (LSDQ) was employed to explore patterns of self-reported loneliness. Strong correlations with teacher reports of social behaviour (Cassidy & Asher, 1992) and moderate test-retest reliability (.55, Asher, Parkhurst, Hymel, & Williams, 1990) illustrate the measure's credibility. Participants responded to questions such as "Do the people at school like you?", by ticking "No", "Sometimes" or "Yes"- coded as [2], [1] and [0] respectively, such that higher total scores indicated greater

loneliness and social dissatisfaction. Responses to the 8-filler questions (e.g. "Do you like sports?") were excluded from analyses.

Peer-Rated Loneliness. Coie and Dodge's (1983) sociometric survey deciphers peer perceptions of social status. The survey has moderate test-retest reliability (.56, Wu et al., 2001) and involved the children writing the initials of three people in their class with whom they most liked, and least liked to spend their time. The number of 'most liked' (ML) and 'least liked' (LL) nominations for each child were standardised within classrooms to create comparable variables. Social preference scores were then calculated (ML-LL) alongside Social impact scores (ML+LL); the former is an index of a participant's favourability among classmates and the latter points to the individual's visibility in a classroom.

Theory of Mind. This study employed the 'Strange Stories' test, an advanced theory of mind measure (White, Hill. Happé & Frith, 2009). Lecce, Zocchi, Pagnin, Palladino and Taumoepeau (2010) report that the measure has good internal consistency (a = .81) and inter-rater reliability (κ = .82). Participants read four vignettes addressing double bluff, deception, and misunderstanding and then answered questions about characters' intentions and beliefs. Time constraints necessitated a departure from the usual eight items, but the successful use of abridged versions has been demonstrated by previous studies (Ronald, Viding, Happé & Plomin, 2006; Badenes, Estevan & Bacete, 2001). The scoring procedure was [2] for a fully correct answer, [1] for a partially correct answer and [0] for an incorrect answer (see White, Hill, Happé, & Frith, 2009, p. 1111 for scoring examples).

Alongside Strange Stories, the Silent Films Task (Devine & Hughes, 2011) was employed to avoid ceiling effects often found in older children. Participants watched five short clips from Harold Lloyd's (1923) silent film: "Safety Last!" and then wrote answers to six questions concerning characters' beliefs, motivations, and desires. The scoring procedure matched that of the Strange Stories. A randomly selected sub-sample of 38 cases were scored by a second rater; results indicated good inter-rater agreement for the coding scheme (Mean κ= .78, Range= .51 to 1.00).

Self-Other Agreement. An issue with previous research is reduced validity due to reliance on one measure to assess self-other agreement. This study looked at agreement on measures of loneliness *and* popularity/leadership-skills. Discrepancies between self and other ratings were deemed to indicate self-concept accuracy.

The Revised Class Play (Masten, Morrison & Pellegrini, 1985) measured self-other agreement of popularity/leadership. It is a measure of peer-rated social competence in which students are given a list of 30 roles and asked to nominate the classmate who best fits each; they are instructed to write the peer's initials (for the purpose of anonymity) in the space provided. The list includes a variety of positive and negative roles such as "someone you can trust" and "someone who fights a lot". Masten states that it is a preferable method of peer assessment since students enjoy the task and parents, teachers, and school administrators are comfortable with its content. Nominations are tallied to assess peer relations and to obtain "global indexes

of reputation" (Masten et al., 1985, p.524); the number of nominations received by each child was standardised within classroom to adjust for differences in class size. Testing started late into the Autumn term to ensure students were well acquainted (Masten et al. 1985, p.526).

The measure is highly informative: in a longitudinal study, Morrison and Masten (1991) found that those nominated for negative roles demonstrated externalising behaviour, involvement in antisocial activities, and reduced competence and self-esteem. Those nominated for positive roles were more successful at school, competent, and better adjusted. In an early study of 9-year olds Cowen, Pederson, Babigian, Izzo and Trost (1973) found that nominations predicted adult inclusion better than teacher ratings, self-reports, and academic achievement.

The measure has good cross-sex reliability, stability for intervals of 6 and 17 months and significant correlations with teacher ratings, achievement scores and IQ (all cited by Masten et al., 1985).

Two novel additions to the Revised Class Play enabled its use as an index of self-other congruency (See Figure 1). The first was a column entitled "I am someone who is..."- included as a measure of self-perception; the second column was headed "I am someone who would like to be..."- included to measure participants 'ideal self' (see the Results section for Cronbach alphas). The pupils had to apply these statements to the 30 roles and then rate themselves on a four-point likert scale ranging from "Not at all" [1], to "Very Much" [4]. Discrepancy scores were calculated by subtracting Current-self Revised Class Play scores from Ideal-self scores; these indicated the participant's desire to change.

	I am someone who is...[a]				I am someone who would like to be...[a]			
...a good leader	①	2	3	4	1	2	3	④

[a] 1= Not at all, 2= Not Much, 3= Somewhat, 4= Very Much

Figure 1: Additions made to the Revised Class Play and example answer.

The second measure of self-other agreement concerned loneliness and was formed by comparing scores from the LSDQ and 'least liked' scores from Coie and Dodge's sociometric survey (both described above).

Calculating congruency. To calculate congruency the peer assessment scales were split into three categories using 'visual binning' in SPSS. Those whose numbers of nominations were within the Standard Deviation were classed as 'Average', those with fewer nominations 'Below Average' and those with a greater number of nominations 'Above Average'; see Tables 2 and 3 below.

Table 2

Categorisation of Popular-Leadership peer nominations from the Revised Class Play

Label	Categorisation Procedure		Post-hoc comparisons	
	Standard Deviation	Score Assigned	Mean self-rated leadership score	Standard Deviation
Below Average	<-4.56	1	19.20	3.84
Average	-4.56-4.57	2	20.96	2.59
Above Average	4.58+	3	22.86	2.59

Table 3

Categorisation of Least Like Peer nominations from Coie & Dodge's Sociometric Survey

Label	Categorisation Procedure		Post-hoc comparisons	
	Standard Deviation	Score Assigned	Mean Loneliness score	Standard Deviation
Below Average	<-.098	1	1.90	1.97
Average	-0.98-0.98	2	4.26	3.96
Above Average	0.98+	3	7.69	4.46

Following this, One-Way ANOVAs were conducted (see Tables 2 and 3 above) in order to assess whether the different groups had unique self-ratings. This was deemed important as it would suggest that each category had a particular character profile, meaning that participants would have an understanding of what it meant to be 'Below Average'/'Average'/'Above Average'; thus, allowing congruency to be considered.

Within the three categories self-ratings were standardised and scored, using standard deviation to create cut-off points, on a scale of 1-4 (See Figure 2); higher scores indicated that the self-concept was accurate, matching peer ratings. Following Atwater and Yammarino's (1997) criteria participants were then categorised by degree and type of congruency (see Figure 2). Categorisation occurred through observing the direction participants fell from the mean and to what extremity. For popularity/leadership participants above the group mean held positive self-images whilst those below the group mean held negative self-images (vice-versa for loneliness); greater extremity equates to a self-concept which is in greater disparity with peer ratings).

1. **Strong Incongruent**: self-concept is very inaccurate (>1.5 *SD* from group mean)	Categorised as: **Underestimators:** self-concept is overly negative (*below* group mean) **or** **Overestimators:** self-concept is overly positive (*above* group mean)
2. **Moderate Incongruent**: self-concept is moderately inaccurate (1.5 *SD* from group mean)	
3. **Moderate Congruent**: self-concept is moderately accurate (1 *SD* from group mean)	Categorised as: **In agreement, positive**: Self-concept is appropriately positive (*above* group mean) **or** **In agreement, negative**: Self-concept is appropriately negative (*below* group mean)
4. **Strong Congruent**: self-concept is very accurate (.05 *SD* from group mean)	

Figure 2: Scoring and categorisation of self-other congruency.

Looking-glass self. Following procedures developed by Robinson and Harter (1991) participants' active endorsement of the looking-glass self was assessed using a pair of statements: A- If others approve of me first, then I will like myself as a person, and B- If I first like myself as a person, then others will like and approve of me. In addition, participants were asked directly to order three categories- teachers, parents, and classmates, in terms of whose opinion was most important to them.

Procedure

Whole-classes were tested within school hours. To ensure standardised administration a script was constructed and followed. Questions from children concerning clarification of a task or word were answered, otherwise children were encouraged to try their best, and simply put what *they* thought was the right answer.

To pre-empt the effect of time pressures on missing data three versions of the questionnaire were produced; each of which were ordered differently. There were some cases of non-response on the various measures; however, adequate data was collected for each item and missing data was excluded on a pair-wise basis, thus a participant was only excluded if they lacked data for the variable being analysed. Counterbalancing also allowed order effects to be controlled and inhibited the tendency of children to work together, improving internal validity.

Analytic Strategy. SPSS Statistics 17.0 was used to analyse the data. Parametric tests were preferable due to their greater statistical power. When assumptions were violated I used alternative tests (e.g. Levene's t-test, Games-Howell post hoc analyses) and conservative alphas. Pearson Product movement correlations assessed the relationship between continuous variables; t-tests and ANOVAs assessed group differences. Last, the non-parametric Chi-square test assessed relationships between categorical variables. All analyses utilised a .05 significance level; for multiple comparisons, Bonferroni's adjustment protected against Type 1 error. Effect sizes are according to Cohen's standards (1988, p. 79-81 & 284-7).

Regarding scales, Pallant (2007) suggests Cronbach alphas above .7 show acceptable internal consistencies. Where scales were skewed and a wider distribution of scores desirable stringent criteria was employed; the original scores were replaced with a simple binary code of [0] (incorrect/disagreement) and [1] (correct/agreement).

The Loneliness and Social Dissatisfaction Questionnaire and the Revised Class Play were subject to exploratory factor analyses (EFA) using principal axis extraction due to controversy concerning their underlying structure. Whilst principle components analysis is commonly used Costello and Osborne (2005) note that it often overestimates the variance explained by components.

Prior to performing the EFA, the suitability of the data was assessed. Inspection of the correlation matrices revealed the presence of many coefficients above .3. The Kaiser-Meyer-Oklin values exceeded the recommended value of .6 (Kaiser, 1974, p.170) and, for both, Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, supporting the factorability of the correlation matrices.

Principal axis extraction identified components with eigenvalues exceeding 1 and the decision to retain components was determined through Catell's (1966) Scree test and Parallel Analysis; the latter looks for components with eigenvalues exceeding the corresponding criterion values for a randomly generated data matrix. Where more than one factor was retained oblimin rotation was performed; chosen since Costello and Osborne (2005, p. 3) suggest it produces accurate and reliable solutions and avoids the loss of valuable information which can occur with orthogonal rotations.

Results

Data Reduction

Self-rated loneliness. To create a wider distribution of scores and to avoid the effects of social desirability, those who were originally coded as '1' (response of 'sometimes') on the Loneliness and Social Dissatisfaction Questionnaire (LSDQ) were undifferentiated from those coded as '2' (response of 'yes'). Simplified coding meant scores could range from 0-16.

EFA supported Asher and Parkhurst's (1992) avocation of a one-factor solution for the LSDQ; explaining 31.86% of the total variance, with a Cronbach alpha of .88.

Theory of Mind. After employing stringent coding, scores from the Strange Stories and Silent Film task were combined to create an overall index of theory of mind. A Cronbach alpha of .59 was deemed acceptable due to the exploratory nature of the research and a moderate correlation coefficient of .36 ($p<.001$, n=154). Item five of the Silent Film measure was removed since it correlated negatively with the overall measure of theory of mind (r=-.12) and therefore reduced internal consistency. The remaining items combined to produce a range of scores between 0-9, with a Mean of 4.94 (*SD*= 2.06).

Self-Other Congruency. EFA revealed a four-factor solution for the Revised Class Play; explaining 47.85% of the total variance (see Table 4). Loadings matched those of Zeller et al. (2003) who identified the following sub-scales: "Aggressive-Disruptive", "Sensitive-Isolated", "Popular-Leadership" and "Prosocial". Some researchers (e.g. Masten et al. 1985) combine the latter two scales but Zeller et al. argue their separation "provide(s) a more meaningful organisation of (the) dimensions of behavioural reputation" (p.137). Two items- 'usually happy' and 'would rather play with others than alone' were removed due to poor fit. The Aggressive-Disruptive sub-scale explained most of the variance (17.07%).

Table 4

 Exploratory Factor Analysis of the Revised Class Play using principal axis extraction with oblimin rotation.

Revised Class Play factor and items	Factor			
	I	II	III	IV
I. Aggressive-Disruptive (17.07%)				
29. Picks on other kids	**.79**	-.03	.22	-.35
06. Shows off a lot	**.74**	.00	.47	-.11
02. Gets into a lot of fights	**.74**	.14	.08	-.15
27. Teases other children too much	**.71**	-.05	.40	-.24
08. Interrupts other children	**.70**	.06	.14	-.21
05. Loses temper easily	**.67**	.37	.10	-.07
21. Too bossy	**.60**	.10	.32	-.03
15. Acts like a little kid	**.57**	.17	-.11	-.23
II. Sensitive-Isolated (16.71%)				
22. Often left out	.12	**.92**	.26	-.08
14. Trouble making friends	.19	**.85**	-.23	-.16
03. Rather play alone than with others	.02	**.85**	-.23	-.02
24. Usually sad	.20	**.70**	-.22	-.01
17. Can't get others to listen	.12	**.63**	-.19	-.02
11. Feelings get hurt easily	.36	**.46**	-.09	.02
18. Very shy	-.14	**.45**	-.27	.10
III. Leadership (9.43%)				
12. Everyone listens to	.25	-.20	**.80**	.19
25. Everyone likes to be with	.07	-.26	**.74**	.05
09. Has many friends	.11	-.22	**.70**	.04
01. Good leader	.22	-.13	**.63**	.34
20. Makes new friends easily	.18	-.14	**.56**	.11
26. Can get things going	.14	-.17	**.49**	.25
16. Good sense of humour	.11	-.22	**.38**	.06
IV. Prosocial (4.64%)				
23. Helps other people when they need it	-.08	-.08	.19	**.72**
10. Will wait their turn	-.26	.09	-.01	**.68**
19. Polite	-.22	.02	.02	**.61**
13. Plays fair	-.21	-.06	.12	**.56**
07. Someone you can trust	-.16	-.19	.23	**.52**
04. Good ideas for things to do	.12	-.12	.42	**.43**

Note: *N= 184*. Items 28 and 30 were removed due to non-significant loadings

The factorial structure above was applied to the Current/Ideal-self Revised Class Play sub-scales; the Mean alpha was .76 (Range= .68 to .85)

Table 5 shows the intercorrelations for the nomination and current-self sub-scales.

Table 5

Intercorrelations within the Revised Class Play sub-scales.

Scale	Nominations (other-ratings)			Current-self (self-ratings)		
	I	II	III	I	II	III
I. Aggressive-Disruptive	-	-	-	-	-	-
II. Sensitive-Isolated	.16*	-	-	.27**	-	-
III. Popular-Leadership	.22**	-.27**	-	-.02	-.39**	-
IV. Prosocial	-.21**	-.09*	.26**	-.40**	.04	.44**

*p<.05
**p<.005

According to Table 5 it is acceptable to assume the nomination sub-scales are independent components since the intercorrelations are quite small (r<.3). Being popular/displaying leadership qualities positively relates to both prosocial and disruptive behaviour whilst negatively relates to being Sensitive-Isolated. Intercorrelations for self-ratings show a similar pattern to those of other-ratings; however, the relationships are stronger suggesting individuals relate the traits of the sub-scales more closely than nominators do. However, whilst nominators indicate a positive relationship between Aggressive-Disruptive and Popular-Leader sub-scales, self-raters indicate a negative, but non-significant relationship.

Are there measurable individual differences in adolescent theory of mind? Table 6 shows a wide range of scores in theory of mind, indicating measurable individual differences in adolescence, although prior to the implementation of stringent coding the Strange Stories showed greater ceiling effects than the Silent Movies. A t-test showed no gender differences but correlational analyses showed that better theory of mind was associated with a greater desire to be popular/leader-like and prosocial (see Table 7).

Table 6

Descriptive statistics for questionnaire variables.

Source	Construct	Measure	Sub-scales	Mean	Standard Deviation	Range
Child	I. Age	-	-	12.06	1.15	10-14
	II. Verbal Ability	Word Reasoning Task	-	9.80	3.11	0-24
	III.SES	Family Affluence Scale	-	6.70	1.86	0-9
	IV. Theory of Mind	Strange Stories & Silent Movie Composite.	-	4.94	2.06	0-9
	V. Current social competence	Self-evaluation on RCP	A. Aggressive-Disruptive	14.84*	4.45	1-32
			B. Sensitive-Isolated	13.98	4.37	1-28
			C. Popular-Leader	20.54b	3.55	1-28
			D. Prosocial	19.44*	3.01	1-24
	VI. Ideal social competence	Self-evaluation on RCP	A. Aggressive-Disruptive	10.64	4.01	1-32
			B. Sensitive-Isolated	10.09	3.40	1-28
			C. Popular-Leader	25.02	3.20	1-28
			D. Prosocial	22.41*	2.50	1-24
	VII. Discrepancy between Actual-self and Ideal social competence	Actual/Ideal discrepancies on RCP	A. Aggressive-Disruptive	-4.09b	4.20	-24-24
			B. Sensitive-Isolated	-3.76	4.07	-21-21
			C. Popular-Leader	4.50	3.69	-21-21
			D. Prosocial	3.04	2.54	-18-18
	VIII. Social Inclusion	A. LSDQ	-	4.62	4.12	0-16
Peer		Sociometric Survey	B. Least-Like	.00c	.98	N/A
	IX. Peer rated social competence	Peer nominations on RCP	A. Aggressive-Disruptive	.00c	5.78	N/A
			B. Sensitive-Isolated	.00c	5.10	N/A
			C. Popular-Leader	.00c	4.68	N/A
			D. Prosocial b	.00c	3.97	N/A
Child & Peer	X. Self-Other Agreement	Relationship between LSDQ/ sociometric survey	A. Loneliness	2.99	1.04	1-4
		Relationship between peer/current scores on RCP	B. Leadership	2.95	1.04	1-4

**Significant after Bonferroni's adjustment ($p<.002$)
c M= .00 as variables are standardised.
b b Significant at the .05 level

Table 7

Correlations between variables; see Table 6 for variable labels

Scale	I	II	III	VIII.A	VIII.B	IV	V.A	V.B	V.C	V.D	VI.A	VI.B	VI.C	VI.D	VII.A	VII.B	VII.C	VII.D	IX.A	IX.B	IX.C	IX.D	X.A
I																							
II	.07																						
III	.39**	.19*																					
IV.A	-.10	-.03	-.13																				
IV.B	-.03	.12	-.08	.40**																			
V	.40**	.29**	.19	-.06	-.15																		
VI.A	-.11	.09	.06	.28**	.20*	.70																	
VI.B	-.05	.17*	.00	.66**	.32**	.04	.27**																
VI.C	-05	-.15	.17*	-.55**	-.27**	.05	-.02	-.39**															
VI.D	-.08	-.05	.11	-.26**	-.20*	.10	-.40**	-.04	.44**														
VII.A	-.05	-.01	-.03	.12	.09	-.15	.50**	.24**	-.02	-.17*													
VII.B	-.05	-.04	.03	.25**	.09	-.09	.20*	.46**	-.07	-.03	.58**												
VII.C	-.01	.08	.14	-.16	-.15	.21*	-.06	-.01	.40**	.44**	-.26**	-.31**											
VII.D	-.08	-.05	.13	-.30**	-.22**	.23**	-.20*	-.07	.35**	.59**	-.34**	-.21*	.65**										
VIII.A	.06	-.11	-.17	-.16	-.10	-.08	-.56**	-.02	-.06	.24**	.43**	.30**	-.20*	-.12									
VIII.B	-.01	-.23**	.00	-.49**	-.30**	-.18*	-.12	-.67**	.39**	-.01	.23**	.36**	-.24**	-.10	.27**								
VIII.C	.06	.23**	-.05	.41**	.18*	.15	-.02	.38**	-.61**	-.08	-.22**	-.22*	.49**	.20*	-.13	-.58**							
VIII.D	.03	.10	-.01	.01	.02	.07	.31**	-.05	-.19*	-.61**	-.13	-.18*	.12	.28**	-.40**	-.08	.29**						
IX.A	-.03	.00	-.01	.19*	.52**	-.03	.32**	.06	.12	-.13	.06	.01	.09	-.02	-.27**	-.14	.02	.15					
IX.B	-.03	.12	-.13	.35**	.53**	.02	.06	.45**	-.39**	-.01	-.04	.01	-.07	-.11	.05	-.49**	.32**	-.10	.16*				
IX.C	.02	.05	.03	-.23**	-.18*	.10	.05	-.24**	.39**	-.03	-.06	-.12	.24	.13	-.13	.16	-.16	.12	.22**	-.27**			
IX.D	.02	-.08	.03	-.19**	-.29**	.07	-.20**	-.13	.24**	.25**	-.18*	-.15	.15	.16	.03	.07	-.07	-.15	-.21**	-.09	.26**		
X.A	.17*	.07	.07	-.17*	-.25**	.25**	-.10	-.05	.06	.02	-.00	.04	-.09	.08	.10	.18*	-.14	.04	-.25**	-.15	.01	.09	
X.B	.27**	.02	.14	-.15	-.25**	.26**	-.08	-.03	.12	.08	-.02	.01	-.04	.11	.08	.13	-.15	-.00	-.18*	-.20*	-.02	.01	.85**

*p<.05
**p<.005

Whose opinions are important for the adolescent's self-concept? In total 58.7% of participants voted parents' opinions as most important for their self-concept, followed by classmates' (23.4%) and teachers' (3.8%). A chi-square test showed that the focus on peers became stronger with age χ^2 (3, 151) = 12.88, $p=$ .005, Cramer's V= .29 (medium effect size; Pallant, 2007, p.217). 17.5% of 10-11 year olds rated classmates' opinions as the most important and this steadily increased through the age groups, concluding with 47.4% of 13-14 year olds. There were no gender effects, χ^2 (1, 149) = .00, $p=$ 1.00, phi= .01.

Who endorses the Looking-glass Self? 52% of participants endorsed the looking-glass self model, suggesting others' opinions are important for self-conception. An independent t-test found that the only statistically significant difference between those who endorsed the looking-glass self perspective (*M*= 19.88, *SD*= 4.14) and those who did not (*M*= 21.12, *SD*= 2.94), was for self ratings on the Popular-Leadership scale, t (128.3) = -2.06, $p<$.05. The magnitude of the differences in the means (mean difference= 1.00, 95% *CI*: -2.43 to -.05) was small to moderate. Those who placed importance in self-approval rated themselves as more popular and better leaders than those who were reliant on others' approval. However, Bonferroni's adjustment (.05 ÷ 9 = .006) suggests a need for caution, as this finding could be the result of Type 1 error.

A chi-square test for independence indicated a significant association between gender and endorsement of the looking-glass self perspective χ^2 (1, n= 166) = 4.25, $p=$ <.05, phi= -.172, a small/medium effect size. 61.5% of males endorsed the looking-glass self perspective compared to 44.3% of females. The test was rerun excluding the all girls' school to see if this affected the results; subsequently, the association between gender and endorsement of the looking-glass self fell below significance, χ^2 (1, n= 140) = 1.92, $p=$ .17, phi= -.132. Female endorsement of the looking glass self increased from to 44.3% to 48.5%; it is apparent that the all girls' school had significantly increased the number of self-approval votes for their gender.

Justifications. Participants were asked to justify their looking-glass self orientation. To summarise some recurrent themes are shown in Table 8.

Table 8

Reasons given for placing importance in others' approval versus self-approval.

Importance placed in others' approval because...	Importance placed in self approval because...
Attain confidence: *"it gives you the confidence to like yourself"*	Assert confidence: *"if you have self-confidence people will think you're a good person to look up to"*
Self-improvement: *"to be a better person I need to know what others think of me first; it can be hard to judge yourself but it's easier for others"*	Constant identity: *"no-one is going to change my mind; I am who I am"*.
Self-consciousness: *"I am self conscious about myself- looks, weight, emotions and all"*.	Lack of concern: *"I don't care what other people think of me, and that's it, I can't help it"*
Wider popularity: *"so I will have more friends"*	Few, sincere friends: *"only good friends accept you as you are"*
Reality: *"people don't care what you think of yourself, just see you and judge you"*	Reality: *"if you don't like yourself, why should others?"*

How do adolescents self-ratings compare to others' ratings of popularity/leadership and loneliness? Concerning the relationship between self and others' ratings a mean correlation coefficient of .35 (Range= .32-.45) was found. This suggests that there is a moderate level of congruency between participants' self-concept and the views of the generalised other.

The data file was split by looking-glass self orientation, the mean correlation coefficient for those who placed importance in others' approval was .40 (Range= .30 to .51) and .33 (Range= .18 to .45) for self approval. Z_{obs} values were obtained (see Pallant, 2003, p.140 equation) and showed no significant difference between the correlation coefficients for those who relied on self approval and those who relied on others' approval. According to these results, endorsement of the looking-glass self does not increase self-other agreement.

Self-Other Agreement. Figure 3 shows that for both Loneliness and Popularity-Leadership the majority of participants made congruent self-other judgements, suggesting accurate self-concepts. For Popularity-Leadership it is apparent that those who are congruent are fairly equally split between positive and negative self-images. For those who are incongruent there is a slight bias towards overestimating the extent their peers see them as someone who is popular/holds leadership skills. Concerning Loneliness Self-Other agreement, the majority of congruent participants hold positive self-images; those who are incongruent have a higher tendency to underestimate peer rejection.
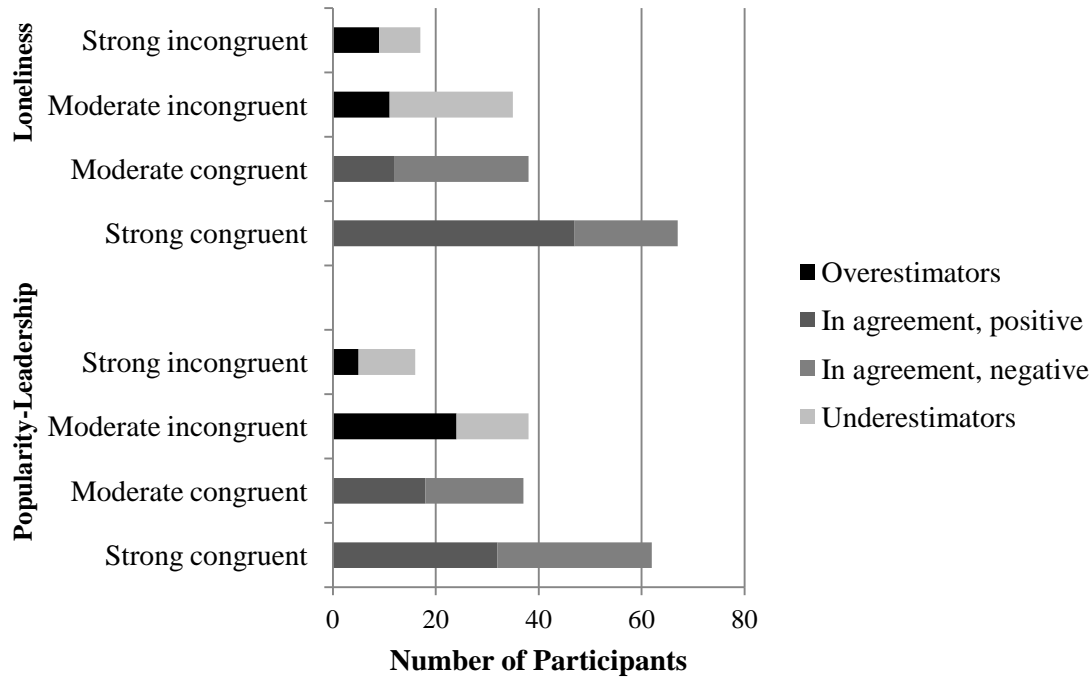
Figure 3: Number of participants in each congruency category and the nature of their estimation

Accuracy of self-concept and consequent outcomes. Correlational analyses were carried out to assess the relationship between Popularity-Leadership/ Loneliness self-other agreement and a number of outcomes, results are displayed in Table 9.

Table 9

Relationship between Self-Other agreement and peer-rated outcomes

Outcome Measure	Loneliness Congruency $N=157$	Popular-Leadership Congruency $N=153$
Social Impact	-.22**	-.24**
Social Preference	.15[d]	.14[d]
Aggressive-Disruptive nominations	-.25**	-.18*
Sensitive-Isolated nominations	.15[a]	-.20*
Prosocial nominations	.09	.01

* $p<.05$
**$p<.005$
[d]Trends towards significance: $p>.05<.10$

The Popular-Leadership and Loneliness estimation categories were cross-compared. For Popular-Leadership estimation a significant difference was found in terms of self-reported loneliness, $F(3, 70.40) = 12.22$, $p<.001$. Post hoc analyses

showed that underestimating ones popularity and leadership abilities related to greater loneliness (see Table 10). For Loneliness Estimation, a significant difference was found in terms of Popularity- Leadership, $F(3, 60.15) = 139.28$, $p < .001$. Post hoc analyses showed that those who overestimated their loneliness also reported lower popularity and leadership ability (see Table 11).

Table 10

ANOVA results for Popular-Leadership Estimation and self-rated loneliness.

Estimaton Category	Loneliness Mean	Standard Deviation	Statistically different to...
1- Underestimators	8.12	4.56	3 & 4
2- In agreement, negative	5.27	4.07	4
3- In agreement, positive	3.76	3.42	1
4- Overestimators	2.44	2.45	1 & 2

Table 11

ANOVA results for Loneliness Estimation and self-rated Popularity-Leadership.

Estimaton Category	Leadership Mean	Standard Deviation
1- Underestimators[e]	24.78	1.24
2- In agreement, negative[d]	21.60	1.46
3- In agreement, positive[d]	18.76	1.96
4- Overestimators[d]	14.75	2.75

[e]Significantly different to all other categories

What is the relationship between Self-Other Agreement and Theory of Mind? A small but significant relationship was found for theory of mind with Loneliness self-other agreement ($r = .26$, $p < .005$, $n = 135$) and Popular-Leadership self-other agreement ($r = .25$, $p < .005$, $n = 138$). After controlling for age and verbal ability, the relationships remained significant: $r = .18$ and $r = .19$ respectively ($p < .05$)

The data file was split to explore gender and looking-glass self differences; however, the Z_{obs} values were insignificant (Mean= .52, Range= .11 to 1.00) suggesting that neither affect the relationship between self-other agreement and theory of mind.

What is the relationship between Current self-Ideal self-discrepancy scores, loneliness, and Theory of Mind? Those with greater desire to change also rated themselves as significantly more lonely; this relationship was found exclusively for the Popular-Leader ($r = .41$, $p < .005$, $n = 140$) and Sensitive-Isolated ($r = .49$, $p < .005$, $n = 140$) sub-scales (both medium strength), even after a partial correlation controlling for potentially confounding variables ($r = .23$, $p < .05$ for both scales)

A small but significant relationship between theory of mind and the desire to be less sensitive/isolated ($r=-.18$, $p=<.05$, $n=123$) was found. However, this finding fell below significance after controlling for verbal ability through a partial correlation. The other discrepancy sub-scales of the Revised Class Play did not correlate significantly with theory of mind.

Discussion

This study produced a number of notable results. Approximately half of the sample endorsed the looking glass self, which was associated with being poorer at leadership and less popular, suggesting that endorsement of the model may be detrimental. A gender effect was explained by the inclusion of an all girls' school. In terms of congruency, the majority of participants demonstrated peer-congruent (i.e., accurate) self-ratings. Incongruence related to aggression, social impact and social rejection (i.e. low social preference scores). Incongruence was largely due to participants seeing themselves in too positive a light; however, this was of relatively little detriment, with those seeing themselves in an excessively negative light expressing greater loneliness and reduced popularity/leadership skills. Congruency was significantly related to theory of mind but there was no interaction with the looking-glass self. Current/ideal self-discrepancy scores were also related to theory of mind; however, this relationship was explained by verbal ability. The results are discussed in full below, alongside a consideration of their impact and limitations.

Who endorses the looking-glass self? Results for this study closely matched those of Robinson and Harter (1991). Specifically, approximately half of participants orientated towards the looking-glass self. A slightly higher percentage might have been expected, given adolescents' supposed preoccupation with their peers' opinions. Perhaps for some, adolescence is a time of self-assertion and the development of independence rather than "storm and stress". The justifications participants gave support this idea.

This study also replicated Robinson and Harter's (1991) finding that those orientated towards the looking-glass have lower peer approval and self worth. Those who endorsed the looking-glass self emphasised the attainment of confidence, self-improvement, self-consciousness, the desire for wide popularity and the belief that harsh judgements are part of the reality of life. Those who endorsed self-approval promoted the *assertion* of confidence, *stable* identities, the benefits of a *close* friendship circle and the belief that if you cannot learn to like yourself then no one else will. These differing justifications support Baumeister's (1991) idea that fixating on what others' think of you can promote insecurity and a lack of self-confidence. In concert, those who endorsed the looking-glass self rated themselves as poorer leaders and less popular than those who placed importance in self-approval. The looking-glass self may be self-defeating: individuals fixate on others' opinions in order to gain popularity and confidence but in doing so detract from the very qualities that may make someone popular- being self-confident, open and at ease. Equally, leadership requires individuals to take control, have charisma and resilience- qualities that may only flourish once individuals place self-approval and self-belief on a pedestal. It would be interesting to examine whether there is a split between those who influence their peers and those influenced *by* their peers as the two groups seem to present clear differences in terms of reliance on others versus the potential to influence others.

More males than females endorsed the looking-glass self. This is in contrast to discourses that suggest girls place great importance in appearance (Nikitaras & Ntoumanis, 2003) and popularity (LaFontana & Cillessen, 1999). Once the all girls' school was excluded from analysis, the gender difference fell below significance. Perhaps all girls' schools embrace the feminist mantra of independence and self-determination. Alternatively, a meta-analysis (Mael et al. 2005) showed that students at all girls' schools demonstrate superior academic accomplishment and socio-emotional development. Thus, perhaps they have less concern with the opinions of others. Equally, girls mature more quickly than boys do (Shaffer, 2008) and it may be that all girls' schools foster this difference. Since self-concepts become more stable with maturation (Elliot et al. 2005) it is possible the all girls' school participants in this study had more stable self-concepts and thus less need to seek approval from others. Further research would be required to explore and untangle these possibilities.

What is the relationship between self and other ratings? A relationship was found between those who were nominated as popular/leader-like and those nominated as aggressive/disruptive. It may be that disruptive behaviour makes children prominent classroom figures, thus increasing their chances to lead and gain friendships. Alternatively, perhaps those who are popular/leader-like are in a good position to manipulate friendships and dominate activities. This relationship was not found for self-ratings, suggesting that in terms of self-concepts these two traits are seen as incompatible.

Correlational analyses showed moderate congruency between self and other ratings both in terms of Loneliness and each sub-scale of the Revised Class play. However, calculation of Z_{obs} values indicated no difference in congruency between those who endorsed the looking glass self and those who did not. This suggests that a reliance on others' approval does not necessarily lead to an ability to decipher opinions, or an accurate self-concept. It could be that the measure used to assess the looking-glass self was not sensitive enough, the intensity and frequency with which participants endorsed the model should also have been assessed. Equally, whilst participants rated classmates' opinions as important, parents were voted most influential across the year groups; thus, a relationship may have been found within a familial context.

Dodge (1993) suggested that misattribution of another's mental state contributes to socio-emotional maladjustment, alongside Hartup (1983) who found self-other incongruence can lead to friendship difficulties. The current study replicates these results. For both Loneliness and Leadership-Popularity, those whose self-concepts were incongruent with other ratings had greater social impact. This means that such individuals were more visible in the classroom, perhaps suggesting that they are disruptive and controversial characters- supported by the fact that those displaying greater incongruence also received significantly more Aggressive-Disruptive nominations from their peers. They equally received lower ratings of social preference, compared to peers whose self-other ratings were congruent. This suggests that self-other agreement contributes to the maintenance of harmonious and stable relationships, and that a failure to acknowledge others' opinions and feedback is of detriment. However, it is worth noting that it could be aggressiveness or lack of social preference that *causes* incongruence. The behaviour of such individuals may make it harder for them to establish a stable sense of self and invite exaggerated responses from peers; Cillessen and Bellmore (1999) considered similar conclusions. This finding adds to the literature concerning the precursors and outcomes of self-other agreement and deserves further research.

It is apparent that incongruence is due to a tendency for self-raters to see themselves in too positive a light. Since a large body of 'others' made ratings, their consensus would suggest that incongruence is not the result of some nominator bias towards under-estimation. It would be worth conducting further research to test this supposition- it might be that this result is a consequence of the study design: perhaps these participants were simply more susceptible to acquiescence when answering the questionnaire.

Atwater and Yammarino (1997) found that seeing oneself in too positive a light led to arrogance, poor interpersonal relationships, and a lack of self-awareness. They found that seeing oneself in a negative light was of less concern since it caused individuals to put more effort into reaching their ideal. However, this study found the opposite: children who overestimated their loneliness rated themselves as worse leaders and less popular; concurrently, those who underestimated their Popularity-Leadership also rated themselves as more lonely. This validates the measures of self-other agreement but may also say something about psychological outcome. It seems that over-estimating a negative trait and under-estimating a positive trait may lead to low self-worth and esteem. Atwater and Yammarino's study looked at adulthood, a stage when the self-concept is arguably more stable and resilient, they also looked at relationships within employment; perhaps self-other congruence has differential outcomes depending on age, life experience, and context.

What is the relationship between self-other agreement, theory of mind and the looking-glass self? Jussim et al. (1992), Cutting and Dunn (1992) and Sebastian et al. (2008) suggested that increased awareness of others' mental states was likely to result in closer agreement between self and other. This study utilised theory of mind to encompass 'awareness of others' mental states' and found moderate but significant relationships with both Loneliness and Popular-Leadership self-other agreement. This relationship persisted even after controlling for verbal ability and age. The utilisation of two measures and the similarity of the results provide strong evidence for the hypothesis that, in comparison with peers, children with better theory of mind abilities are more likely to show accurate self-concepts.

Those who endorsed the looking glass self did not demonstrate a greater relation between theory of mind and self-other congruency. This suggests that there is no interaction between the looking-glass self and theory of mind; how else can the relationship be explained? This study showed that those with better theory of mind also desired to be more popular and prosocial; thus, perhaps theory of mind leads individuals to be more considerate towards others, and thus more willing to listen and respond to their feedback. Importantly, such individuals may not place others' approval above self-approval but may simply recognise the benefits of being co-operative. Alternatively, if theory of mind is an awareness of one's own as well as others' mental states then it may be that those with better theory of mind communicate their self-concept (feelings and thoughts about their behaviours, characteristics etc.) more clearly, meaning others can more easily understand and judge them. The results are interesting and hold the potential to aid our understanding of concept development; but there is a need for further investigation to understand them fully.

What is the relationship between Current/Ideal-self discrepancy scores and theory of mind? Those who showed greater current/ideal-self discrepancy in terms of Sensitivity-Isolation and Popularity-Leadership also showed greater self-reported loneliness and dissatisfaction. This supports the idea that building

friendships is of key importance in adolescence and that feelings of isolation are detrimental for self-worth. A moderate but statistically significant relationship was exclusively found between theory of mind and Sensitive-Isolated discrepancy scores. This supports Banerjee and Yuill and Silvia and Gendolla's (2001) belief that self-awareness leads to the identification of current/ideal-self discrepancies and motivates a person to change. In one sense this suggests ignorance is bliss since these individuals were also lonelier because of their self-awareness; supporting Cutting and Dunn's (2002) finding that advanced theory of mind abilities may not always be a good thing. On the other hand, awareness of discrepancies may give a person the opportunity to reach their full potential- if they can identify areas of improvement perhaps they are in a better position to carve their ideal self; however, this assumes that the ability to fundamentally change one's character traits is feasible, a notion which is somewhat controversial.

The relationship can be explained by the co-varying effects of verbal ability; this finding ought to be explored further but suggests that awareness of current/ideal-self discrepancy may be less to do with *understanding* mental states than the in-depth processing, organisation and recall of ideas. The Word Reasoning Task is a measure of verbal concept formation and the child's ability to verbally reason; it is feasible that it may also be linked to more general concept formation and reasoning.

Limitations. Convenience sampling was used which resulted in the inclusion of an all girls school and a private school; these are likely to have distorted the results somewhat. However, in compensation, the study included a relatively large sample.

The study did experience some level of non-response for each measure. This is most likely due to the length of the questionnaire. However, a diverse range of measures were desired to bolster validity- two measures of self-other agreement were included and the fact that similar results were obtained for both substantially increases the significance of the results. If anything, the study would have benefited from more measures (particularly ones concerning self-esteem) however, this was unfeasible.

There is some controversy concerning the use of cut-off points to determine self-other agreement; however, this was deemed the most practical method of assessment and has been widely used by other researchers.

The reliance on self-report makes it difficult to ascertain the truthfulness of the results; distortions may have occurred due to social desirability and acquiescence. However, questionnaires are an ethical and practical way of assessing adolescents; also, it was emphasised to participants that they should just put what they think. Nonetheless, results should be considered with some caution.

Implications and Future Study. Importantly the study successfully employed a measure of adolescent theory of mind (Devine & Hughes, 2011), this adds to a growing body of literature that suggests that measurable and important individual differences are present beyond childhood.

Self-other incongruence was associated with negative attributes such as aggression, high social impact, and low social preference. This study has shown that theory of mind is important for self-other agreement, relating to closer congruency. To tackle incongruence schools could implement interventions that teach children to process others' thoughts more accurately. A study by Rayner and Devi (2001) found that 'Circle time' was important for encouraging positive feedback, facilitating positive self-statements, promoting self-awareness and developing social skills and communication. Thus, it would perhaps be worth considering how this type of activity

could be adapted for older adolescents. This intervention would be apt for those who see themselves in too negative a light since they showed greater negative outcomes in terms of popularity and loneliness. A balance must be struck however between appreciating the opinions of others and valuing one's own opinions, since over-reliance on others' opinions was found to be detrimental. It is also apparent that the connection between theory of mind and self-other agreement needs unpacking to determine the causal direction and nature of the relationship.

Despite the importance of classmates' opinions, in early adolescence parents hold the most influential power in terms of shaping self-concepts. Thus, to provide validation, results need replicating in other contexts- most importantly, with parents. Equally, replication with siblings would be worthwhile since they may play a large role in self- conception, especially given suggestions they are important for theory of mind development (McAlister & Peterson, 2007).

Last, the self-concept is undoubtedly a complex phenomenon; this study forms the tip of an iceberg. Nonetheless, it opens the door to a new realm of research, inviting consideration of theory of mind beyond its usual context of early childhood and atypical development.

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