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Understanding challenging behaviour: Perspectives of children and adolescents with a
moderate intellectual disability

Running title: Understanding challenging behaviour

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Abstract

Background: The present study examines understanding of challenging behaviour among a sample of children and adolescents with a moderate intellectual disability, and investigates their behavioural intentions towards peers with challenging behaviour.

Methods: The study involved the collection of quantitative and qualitative data. In the quantitative part of the study participants (N=39) completed a modified Friendship Activity Scale following the presentation of vignettes depicting individuals with challenging and non-challenging behaviour. In the qualitative part of the study, participants (N=31) took part in a semi-structured interview that sought their views on the causes of the challenging behaviour described in one of the vignettes.

Results: Analysis of the data from the Friendship Activity Scale indicates that participants have significantly more positive intentions towards a vignette character that does not engage in challenging behaviour. Content analysis of the qualitative data indicates that participants hold a variety of beliefs about the causes of challenging behaviour. Suggestions include that possibility that it is a response to transient emotional states and to external events.

Conclusions: The findings are consistent with the findings of other studies on young people's understanding of and attitudes towards peers with atypical behaviour. The theoretical and clinical implications for young people with intellectual disabilities are discussed.

Key words: intellectual disability, challenging behaviour, children's understanding, qualitative analysis, behavioural intentions.

Introduction

Challenging behaviour (CB) may be defined as ‘culturally abnormal behaviour of such an intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behaviour which is likely to seriously limit or deny access to and use of ordinary community facilities’ (pp. 4-5; Emerson, 1995). Epidemiological studies suggest that the prevalence of CB among individuals with intellectual disabilities (ID) is approximately 7% (Kiernan & Quershi, 1993). Figures reported within specific settings however are higher, with a study by Kiernan & Kiernan (1994) reporting that 22% of children attending special schools for individuals with ID displayed challenging behaviour. The consequences of CB include physical risk to the person and those around him/her, and increased risk of abuse, inappropriate treatment, exclusion, and neglect (Emerson, 2001).

The examination of children’s understanding of challenging behaviour is important given that there are strong arguments to suggest that, in typically developing populations at least, this understanding may exert a strong influence on the way children respond to peers who have behavioural difficulties (Magiati et al. 2002, Giles & Heyman, 2004). Research to date suggests that children who display difficult or aggressive behaviour are at risk of exclusion by peers, which in turn increases their risk of developing serious psychological difficulties later in life (LaFontana & Cillessen, 2002, Deater-Deckard, 2001). The examination of children’s reasoning in relation to behavioural difficulties also has practical implications for the development of age-appropriate interventions and psycho-educational programmes to address such issues (McMenamy et al., 2005). Despite the risks associated with CB and the relatively high prevalence of this behaviour among individuals with ID, a

review of the literature failed to identify any studies that have investigated understanding of this phenomenon in children or young people with ID.

While no research could be traced on the understanding of challenging behaviours in individuals with intellectual disabilities, a small number of studies have however investigated conceptual understanding in other domains such as physical illness, disability, and religion (Finlay & Lyons, 1998; Cunningham, et al., 2000; Bassett et al., 1994; March, 1991). March (1991), for instance, examined illness conceptualization among adults with a mild to moderate level of ID. The study adopted a previously proposed 6-stage model, which details development of illness conceptualization in the general population (Bibace & Walsh, 1980). Results indicated that adults with mild to moderate ID were able to provide information in relation to their understanding of physical illness. This knowledge was observed to be concrete in nature, similar to that of younger typically developing children. Importantly however, the study showed that conceptual development could be investigated within an understandable research framework developed within a mainstream population.

Domain-Specific and Naïve Theories of Development

Over the past two decades research that has examined typically developing children's conceptual understanding of psychological or behavioural difficulties has tended to adopt a domain-specific rather than a global or general view of cognitive development (Wellman & Gelman, 1992). Inherent in this approach is a recognition that cognition may differ substantially across various areas and domains. Individuals are seen as 'naïve theorists' developing a range of non-scientific knowledge systems and belief structures based on their experiences over time (Wellman & Gellman, 1992).

Wellman and Gelman (1992) suggest that people develop naïve psychological

theories in order to explain human behaviour. They propose that such theories involve a mental construction that actions result from internal mental states such as hopes, wishes, beliefs, and doubts. In other words, other people are constructed as psychological beings whose behaviours are caused by psychological forces and states. This notion has been supported by a small but consistent body of research with children in mainstream populations (Gopnick & Astington, 1988; Harris et al. 1991; Taylor, 1988; Wellman & Bartsch, 1988).

Although conduct disorder has not been examined from the framework of naïve theory, there is evidence that parents believe that young children's conduct problems are caused by internal factors (Wilson, Gardner, Burton & Leung, 2006) and that adolescents cite internal characteristics as the most likely explanation for the behaviour of an aggressive peer (Boxer & Tisak, 2003). Research by Noone, Jones and Hastings (2006) also found that care staff view challenging behaviour as originating within the individual (as opposed to the environment), being stable over time, having a cause unique to the client and being controllable. Of particular interest is the fact that these causal explanations can be changed with an appropriate intervention (Dowey, Toogood, Hastings & Nash, 2007). None of this research has examined the beliefs or naïve psychological theories of individuals who have an intellectual disability. Notwithstanding, this framework may be considered particularly appropriate for children with ID as it precludes a narrow, adult-determined focus on age-related competencies and achievements, in favour of an approach that examines children's beliefs and ideas within the context of their experiences.

The present research had two main aims. The first was to use a semi-structured interview to determine whether naïve theory could be applied to the

understanding of CB among a sample of children and adolescents with a moderate level of ID.

The second aim was to investigate differences between the participants' behavioural intentions towards a hypothetical peer who exhibits CB and a hypothetical peer who does not. Because of the wide age range of the participants, and the fact that older participants were likely to have considerably more experience of peers with challenging behaviour than younger participants, a decision was taken to explore the relationship between chronological age and responses to the questions in the Friendship Activity Scale (FAS; Siperstein, 1980). In order to do this the sample was divided into three chronological age groups corresponding with middle childhood, early adolescence and mid/late adolescence.

Method

Participants

Participants comprised 39 children and adolescents (28 male and 11 female) with a moderate level of ID (IQ range of between 35 and 49) ranging in age from 8 to 18-years (mean age = 13 years, 1 month). They were recruited from three special schools for children with moderate ID. The gender distribution of the sample matched the distribution in the schools from which the samples were drawn. Eight individuals with limited receptive and expressive language did not take part in the semi-structured interview but were able to complete the FAS (Siperstein, 1980), as described below. The latter criterion was informally evaluated by teaching staff and school principals in each of the three schools.

Measures

Vignettes

Two vignettes illustrating typical cases of challenging behaviour were developed in consultation with a principal clinical psychologist working in the area of ID. The content of the vignettes was also informed by recent epidemiological studies on the prevalence of various types of CB (Emerson et al., 2000). A third vignette depicting a case of non-challenging behaviour was also developed to allow a comparison of behavioural intentions. Vignettes were subsequently circulated to two additional clinicians for comment in relation to their accuracy. Finally, they were distributed to a group of 17 psychologists attending an ID workshop at a psychology conference. The group was asked to rate on a 6-point Likert scale the accuracy of the vignettes and the frequency of referral for the challenging behaviours described. Findings are presented in Table 1 below. On the basis of this analysis, Vignette 1 was selected for inclusion in the study as the CB vignette, despite the fact that it had a marginally lower mean score. This decision was taken because it had a higher frequency score and was therefore assumed to describe behaviour that would be more familiar to the participants. Each vignette was accompanied by a series of photographs: *This is Jake/Jane.* (Picture of boy/girl); *Sometimes Jake/Jane shouts.* (Picture of boy/girl with open mouth); *Sometimes s/he throws his/her books* (Picture of boy/girl throwing book); *Sometimes s/he hits* (Picture of boy/girl with clenched fists); *Sometimes s/he kicks* (Picture of boy/girl with raised leg). The vignette character that was presented was always the same gender and approximately the same age as the participant. This was achieved by having four sets of photographs for each vignette: a boy and a girl in middle childhood, a boy and a girl in mid adolescence. In all vignettes the facial expressions and actions (as described above) were kept as similar as possible.

Insert Table 1 about here

Vignette 3, depicting non-challenging behaviour, received a mean accuracy rating of 4.8 and was also included in the study: *This is Jessie/Jim* (picture of boy/girl); *Sometimes Jessie/Jim listens to stories* (picture of boy/girl listening to story); *Sometimes Jessie/Jim plays games* (picture of boy/girl playing game).

Interview schedule

The interview schedule focused on the causes of CB, its chronicity and suggestions for remediation. The questions and prompts are presented in table 2 below.

Insert Table 2 about here

The Friendship Activity Scale

The FAS (Siperstein, 1980) is an instrument designed to measure children's behavioural intentions toward their peers. It consists of 17 items describing activities typically engaged in with classmates and friends, although the author (Siperstein, 1980) has indicated that the number of items can be reduced to 10 without reducing reliability or validity. In responding, children indicate whether they would include a hypothetical child in a specific activity by choosing one of four responses (no, probably no, probably yes, yes). Reliability of the questionnaire has been demonstrated to be satisfactory ($\alpha = 0.87$; Manetti, Schneider & Siperstein, 2001).

The original questionnaire contains five conceptual groupings: (1) helping behaviours (2) sharing behaviours (3) physical proximity (4) common activities and (5) intimacy level.

Pilot work with the FAS indicated that the participants were unable to concentrate for the length of time that it took to answer all the questions in the 17-

item version of the questionnaire. For that reason a decision was taken to reduce the number of items. Modification of the FAS involved substituting activities on the original questionnaire with activities more likely to be engaged in by children and teenagers with a moderate ID. For example, the item “help him with his math” was replaced with the item “help him with his work”. All modifications were undertaken following consultation with school principals and teachers in the schools taking part in the study. The total number of items included on the modified version of the FAS was 11. Modified items reflected the original conceptual groupings outlined by Siperstein (1980). The language used in the response options was also modified following recommendations from teaching staff. Specifically, the terms: *yes, probably yes, probably no, no* were changed to: *all the time, sometimes, hardly ever, never*. All items in the original and modified versions of the FAS are in a common direction and avoid negative wording as recommended by Marsh (1986). Reliability analysis was performed to determine the internal reliability of the modified FAS in relation to the two vignettes used and a Cronbach’s alpha level of 0.97 was obtained for both. Item total correlations ranged from .46 to .96 with a mean of .75 (SD = .11). These figures suggest that the FAS is internally reliable when used with a population of children with a moderate intellectual disability.

Procedure

Ethical clearance was obtained from relevant ethics committees and school boards, and consent and information forms were circulated to the parents/guardians of potential participants. Verbal assent was also obtained from the participants at the time of data collection. All interviews were conducted in an empty classroom or section of the school.

The order of presentation of the vignettes (one describing CB, and the other describing non-challenging behaviour) was counter-balanced, every second participant was presented with the CB vignette first. Both vignettes were presented with appropriate photographs illustrating the behaviours described. The FAS was presented immediately after each vignette and in the case of the CB vignette only, the semi-structured interview was conducted after the FAS. During the semi-structured interview the participant was asked each of the core questions outlined in Table 2. If participants were unable to provide an answer to a core question, selected prompts were given to help them formulate a response and they were encouraged to expand on their answers where feasible. Interviews were typically of 5-10 minutes duration.

Data preparation and content analysis

Interviews were tape-recorded, transcribed verbatim, and read a number of times to gain familiarity with the text. Where necessary, recordings were listened to in order to gather additional information (e.g. tone of voice). Three coding systems were employed to categorise (i) participants' causal explanations of CB, (ii) their beliefs in relation to its chronicity, and (iii) their suggestions in relation to its remediation. Cohen's Kappa values were calculated to establish inter-rater reliability on 100% of the data. Values ranged from 0.93 to 1 indicating high levels of agreement between raters.

Results

Qualitative analysis

Analysis of interview data concerning participants' beliefs in relation to the causes of CB, led to the identification of four themes. Thirteen participants (42%) described the behaviour as caused by a 'Transient emotional state' such as anger or sadness (e.g.

'He looks sad there': Boy age 16; *'It's not nice. Maybe she was scared'*: Girl age 17; *'Maybe when she gets angry. If she does something wrong she might do all them things.'* Girl age 17). The next most commonly identified cause was classified as 'Response to an external event' or situation (e.g. *'Cause her mom and dad said her to go to bed and she cried'*: Girl age 16; *'Cause when he doesn't get his own way, when he says to his Mam he doesn't want to do things, he doesn't want to do them'* Boy age 16). This cause was suggested by 8 participants (25%). In contrast, 7 participants (22%) ascribed the behaviour to a 'Stable personal characteristic' or trait such as 'meanness' (e.g. *'Because he's mean and he's nasty, because the look on his face'*: Boy age 15; *'Cause he's a bully'*: Boy age 12). Two participants attributed CB to a 'Physiological cause' such as lack of sleep or illness (e.g. *'Yeah. And she feels sick, she's not well'*: Girl age 13; *'If they didn't sleep'* Girl age 12). Seven participants suggested more than one cause for the behaviour while three (10%) offered a description of the behaviour only, when asked for a cause, and a further 5 (16%) gave no response or said they did not know.

Chronicity of behaviour

Thematic analysis of interview data also revealed information pertaining to participants' beliefs about the chronicity of CB. In terms of short-term chronicity, participants were asked whether they thought the character in the vignette engaged in CB everyday or just some days. In contrast, their opinions in relation to the long term persistence of the behaviour were explored by asking what the character might be like when he/she 'grows up'. With regard to the short-term chronicity of CB, the majority of participants (N=20, 64%) believed that the behaviour would not occur on a consistent basis (e.g. *'Don't know – sometimes he's good and sometimes he's bad'*: Boy age 14). Only 8 participants (25%) stated that the behaviour would be displayed

on a consistent basis, while the remainder reported not knowing or alternatively offered no response. Responses to the question of what the character in the vignette would be like when he/she had ‘grown up’ indicated less certainty about the outcome. Nine participants (29%) indicated a belief that the behaviour would not persist (e.g. *‘She’ll be a nice girl’*: Girl age 12) and 8 (26%) indicated that the behaviour was likely to persist (e.g. *‘I think she’ll still be like that, she looks very grouchy’*: Girl age 17). A further 10 participants (32%) made some reference to the character’s future that was not relevant to CB (e.g. *‘She’ll go to college’* Girl age 13) and 4 (13%) said they did not know or gave no response.

(iii) *Remediation of behaviour*

Analysis of interview data concerning participants’ beliefs in relation to the remediation of CB, led to the identification of a number of themes. For this category, responses were classified according to (i) the person that they believed could help the character in the vignette, and (ii) the action that could be taken by the specified individual. Each of these sub-categories will be dealt with in turn. In the first instance, the participants clearly found this question challenging as 58% either answered that they did not know or did not provide a direct response. The remaining participants identified a variety of individuals who might be capable of assisting the character engaging in CB. The most common suggestions included professionals (26%) (*‘someone like you’*: Girl age 12) and peers (13%) (e.g. *‘I’d go up to him’*: Boy age 14). One participant mentioned parents (*‘His Mam’*: Boy age 16), and one referred to spiritual forces (*‘God, because God is in his spirit’*: Boy age 14).

A number of themes were identified with regard to particular actions that could be taken to help the person engaging in CB. Participants’ responses in relation the remediation of CB were seen to display creativity and insight. Some participants

(29%), for example, suggested attempting to diffuse the situation by helping the person to calm down or relax. Specific tactics included talking or playing a game with the character (e.g. *'Talk with her'*: Girl age 12; *'I think, teach him a game'*: Boy age 14).

In contrast, some participants (35%) suggested more directive strategies such as verbal reprimands or instructions (e.g. *'Stop her, like say sit down and don't do that'*: Girl age 17; *'I don't know, tell him he's bold, tell him to stop'*: Boy age 14). More punitive strategies were also suggested. Themes falling into this grouping included 'Report to Authority Figure' (13%) (e.g. *'Em, bring him to the principal's office'*: Boy age 15), 'Sanction' (29%) (e.g. *'She could put him in the bold corner'*: Girl age 16; *'no dinner for the rest of their life'* Boy age 15) and one participant suggested 'Physical Restraint' (e.g. *'Put him on the floor and somebody standing on his stomach'*: Boy age 16).

Quantitative analysis

Assumptions of normality and homogeneity of variance were investigated through the use of the Kolmogorov-Smirnoff Goodness of Fit Test and Levene's Test of Equality of Error Variances respectively. Results indicated that both assumptions were met. Although the total number of participants was relatively small (N=39), parametric statistics were selected due to the presence of normality and homogeneity, and due to the difficulty in finding appropriate non-parametric test equivalents. Data were analyzed using a two-way repeated measures ANOVA and alpha was set at 0.05. The between subjects factor was age group (8-11 years; 12-14 years; 15 to 18 years), while the within subjects factor was vignette type (challenging behaviour, non-challenging behaviour). Gender was not included as an independent variable due to the unequal numbers of male (n=28) and female (n=11) participants. Results of the

ANOVA indicated that there was no interaction between age group and vignette type, thus allowing for the examination of main effects. Descriptive statistics are outlined below in Table 3.

Table 3 about here

Hypothesis one, that scores on the FAS would be higher for the vignette depicting non-challenging behaviour than for the vignette depicting challenging behaviour was supported. A main effect was observed for vignette type ($F(1, 36) = 19.84, P < 0.05$). Mean FAS scores were significantly higher for the non-challenging behaviour vignette (vignette 2) than for the challenging behaviour vignette (vignette 1).

Hypothesis two that the pattern of scores on the FAS for the two vignettes would differ across the three age groups was not supported. Specifically, there was no significant difference in FAS scores across the three age groups ($F(2,36) = 2.36, P > 0.05$). Although, it may appear that younger participants' (age 8-11) scores on the FAS displayed less variation across the two vignettes, than the older two groups, an effect was not observed for age due to the magnitude of computed standard deviations. In other words there was large variation and thus large overlap in the way participants from each age group responded to the FAS items.

Discussion

Results of the qualitative part of the study indicated that children and adolescents with a moderate level of ID possessed a substantial amount of information in relation to CB. They were able to identify causes of CB, formulate ideas in relation to the chronicity of the behaviour, and make suggestions as to how the behaviour might be addressed.

The reliance on physical or concrete descriptions of CB displayed by some participants is consistent with findings reported in previous research examining conceptual understanding in individuals with ID (e.g. March 1991, Finlay & Lyons, 1998). However, a substantial portion of participants did indeed show evidence of relatively sophisticated reasoning in relation to CB, attributing it to various external events and internal emotional and physiological states. These types of responses are similar to those reported in research conducted with typically developing children in this domain (McMenamy, 2005, Smith & Williams, 2005) and the participants' emphasis on internal factors is consistent with the findings of Wilson et al. (2006) with parents and of Noone et al. (2006) with care staff. The tendency of many participants to view CB as transient is also in keeping with studies conducted with children of average ability (Giles & Heyman, 2004) although this stands in contrast to the views of care staff that challenging behaviours are relatively stable (Noone et al., 2006). Perhaps most striking however was some participants' capacity to make socially valid, appropriate suggestions concerning the remediation of CB. Their ideas in relation to individuals who might assist the vignette character, and the particular strategies that might be employed, parallel some of those reported in studies conducted with mainstream school populations (Armstrong et al. 2000; Spitzer & Cameron, 1995).

Analysis of participants' responses to the FAS indicated that overall, stronger preferences were evident for a peer without CB than with CB. A developmental trend was not however observed in relation to children's behavioural intentions towards peers with challenging and non-challenging behaviour. These findings are comparable to those reported in studies conducted with typically developing populations, which suggest that children can discriminate quite accurately between

the behaviour of peers with and without emotional-behavioural difficulties (Marsden & Kalter, 1976; Giles & Heyman, 2004). Children of average ability have also been shown to be less likely to indicate an intention to befriend or help a fictional child described as aggressive (Graham & Hoehn, 1995).

A number of methodological limitations deserve consideration. Firstly, the sample size was considerably smaller than those generally reported in literature examining children's behavioural intention towards peers with psychological difficulties or disabilities (Roberts & Smith, 1999; Swaim & Morgan, 2001). The exploratory nature of the present research and the selection of a clinical sample precluded the recruitment of larger group of participants. Secondly, although the gender distribution of the sample approximately reflected that of the special school population, the unequal distribution of males and females in the present research meant that the exploration of gender effects was not feasible. The decision to use vignettes, rather than to refer to the behaviour of actual peers was taken for ethical reasons, however, the use of vignettes carries certain limitations. In particular it is possible that the participants' responses to the vignette characters do not reflect their reactions to real peers (Hennessy, Swords & Heary, 2008). A study by Juvonen (1991) offers an excellent model of how responses to real peers can be examined sensitively. A more ecologically valid way to have presented the vignettes, however, would have been to describe positive social behaviour in both and then to add the account of challenging behaviour to the end of one. This approach would have given a more realistic account of an individual with a challenging behaviour, and would, therefore, have made the vignette characters' behaviour potentially more recognizable.

Two further limitations relate to the use and analysis of the FAS data. One limitation relates to the possibility that participants' responses to the FAS questions following each vignette may have been influenced by factors such as social desirability and acquiescence. Research has suggested that individuals with ID may be particularly susceptible such influences (Begley, 2000). A second limitation relates to the use of chronological age in the analysis of the FAS data. The decision to use chronological age in the analysis was based on the assumption that the older participants would have considerably more experience of peers with CB than younger participants. However, future research should consider exploring the relationship between behavioural intentions and developmental age and/or directly measuring participants' experience of being in groups with individuals who have challenging behaviour.

General Conclusions

Understanding children's reasoning about the causes, chronicity, and remediation of CB is important given that this information may facilitate the development of age-appropriate educational interventions to promote understanding of this phenomenon in individuals with ID. Such interventions may increase intentions to interact with peers who engage in CB given that research conducted with mainstream populations has indicated that the provision of explanatory information in relation to psychological difficulties can have a positive influence on intentions to engage with affected peers (Campbell et al., 2004).

Indeed, results of the present research suggest that many children and adolescents with a moderate level of ID do in fact construct naïve psychological theories in relation to CB. Specifically, they displayed an ontological awareness of the

existence of internal mental states such as emotions and desires in others and showed ability to reason about the relationship between the latter, and engagement in CB. The indication that children and adolescents with ID are less willing to engage in shared activities with peers who display CB echoes that of earlier research conducted with mainstream populations (e.g. Graham & Hoehn, 1995). As discussed previously, peer exclusion may place already vulnerable children at increased risk for the development of more serious psychological difficulties, and thus points to a need for services to prioritize the inclusion of children who engage in CB.

Although the present research has gone some way towards elucidating naïve theories of CB in a population of children and adolescents with a moderate level of ID, and has also offered preliminary information in relation to their behavioural intentions toward peers with CB, more research is required in order to understand these notions more fully. Various methodological limitations inherent in the study have been outlined and it may be useful for future research to address some of these issues. The replication of the present research with a larger sample size might allow for a more thorough exploration of developmental and gender differences in children's understanding of challenging behaviour in their peers.

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Table 1: Mean accuracy and frequency of referral ratings for vignettes

	Vignette 1 (CB)	Vignette 2 (CB)	Vignette 3 (Non-CB)
<i>Accuracy</i>			
Mean rating	4.6	5.0	4.8
Standard Deviation	1.29	1.08	0.90
<i>Frequency</i>			
Mean rating	4.7	4.1	
Standard Deviation	1.07	1.01	

Table 2: Questions contained in the semi-structured interview

Question	Prompts	Question Classification
1. Why do you think [child] did that?	Why did s/he do this (pointing)? Tell me more about that.	Causality
2. Who could help [child]?	Could teacher help? Is there anyone else who could help?	Remediation of behaviour
3. What could they do?	What could teacher do? Tell me more about that.	Remediation of behaviour
4. Do you think [child] does this every day?	Does s/he do this all the time or sometimes? Tell me more about that.	Chronicity/persistence of behaviour
5. What do you think [child] will be like when s/he grows up?	Will s/he still be like this or will s/he be different? Tell me more about that.	Chronicity/persistence of behaviour

Table 3: Descriptive statistics for FAS

	Age Group	Mean	SD	n
Vignette1 [CB]	8-11	33.64	12.11	11
	12-14	23.46	10.52	13
	15-18	24.26	12.79	15
	Total	26.64	12.40	39
Vignette 2	8-11	36.18	12.68	11
	12-14	32.00	11.56	13
	15-18	35.80	9.06	15
	Total	34.64	10.88	39