

An examination of perceptions of individuals with an intellectual disability, with and without co-morbid schizophrenia: effects of labels on stigma

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Abstract

Background Research demonstrates negative perceptions of individuals with intellectual disabilities (ID) and individuals with schizophrenia, but no study has examined ID with a co-morbid psychiatric disorder. The present study examined the social distance desired from and perceptions of dangerousness of ID, schizophrenia and co-morbid schizophrenia and ID and examined the impact of providing a label for the behaviours presented in a vignette.

Methods A total of 160 participants, all university students, were randomly assigned to one of six vignettes detailing a person with schizophrenia, ID, or a person with both presenting problems. Half of the participants were randomly assigned to read vignettes that had a label provided for the behaviours of the target.

Results Participants desired more social distance from the unlabelled than labelled targets. Presence of schizophrenia resulted in increased social distance, but co-morbid ID and schizophrenia elicited less desire for social distance than schizophrenia alone. Schizophrenia resulted in more perceived danger, but labelled co-morbid schizophrenia and ID resulted in little perceived danger.

Conclusions Labels resulted in positive outcomes, particularly, when ID was co-morbid with schizophrenia. Schizophrenia stigma appears to be impacted by an ID label, indicating educating the public about the spectrum of co-morbidity may be useful.

Keywords co-morbidity, intellectual disability, perceived dangerousness, schizophrenia, social distance

Background

There has been extensive research on the relationship between mental health labels and social distance – the amount of distance desired from others in social situations (Marie & Miles 2008; Jorm & Oh 2009) – and perceived dangerousness – the perception individuals with a mental illness are dangerous to others (Phelan & Basow 2007). Some authors have compared the stigma experienced by people diagnosed with schizophrenia and intellectual disabilities (ID) as they both have a pervasive and lasting impact on functioning (Scior & Furnham 2011) and are two of the least accepted disabilities in social situations when compared to 20 different disabilities (Westbrook *et al.* 1993). However, there is little research examining the amount of stigma experienced by individuals with co-occurring mental disorders. This study hopes to address this gap in the literature by examining stigma towards individuals

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with schizophrenia, ID, and diagnoses of both disorders as it has been found that lower IQ scores are associated with an increased risk for developing schizophrenia (Zammit *et al.* 2004). One study found 75% of individuals with schizophrenia exhibited moderate to severe cognitive dysfunctions (Taylor & Abrams 1984). Additionally, there is a higher prevalence rate of schizophrenia (3.7–5.2%) among individuals with ID than among the general population (1.26%) (Morgan *et al.* 2008), indicating examining the two together may be even more informative than examining either alone.

The impact of labels (e.g. labelling someone with ‘schizophrenia’ in a vignette) is also an issue of confusion when it comes to understanding attitudes towards individuals with psychological diagnoses. Numerous studies have found labels to increase the amount of social distance desired (e.g. Wright, Jorm, & Mackinnon 2011; Yap, Reavley, Mackinnon, & Jorm 2013), while other studies have found labels to decrease the amount desired (e.g. Scior *et al.* 2013a; Scior *et al.* 2013c). How labels would be related to stigma for those with co-occurring schizophrenia and ID, however, remains unknown and is another focus of the present study.

Stigma towards schizophrenia

Research has found that the diagnosis of schizophrenia evokes higher levels of stigma, and others tend to view people with schizophrenia as less interpersonally desirable (Jorm & Oh 2009). Additionally, others often find them more dangerous and more unpredictable than those with other disorders (Jorm *et al.* 2012). This increase in perceived dangerousness is often associated with increases in the amount of desired social distance (Thompson *et al.* 2002; Webb *et al.* 2009).

Stigma towards intellectual disabilities

Research has demonstrated that individuals diagnosed with ID experience stigma in their daily lives (Burge *et al.* 2007; Proctor & Azar 2012; Ali *et al.* 2013). However, it is frequently noted in the literature those with ID have received minimal attention and consideration compared to other diagnoses (Corrigan 2013; Ditchman *et al.* 2013; Walker & Scior 2013). Research has found individuals with ID are viewed as highly undesirable to interact with socially (Scior

2011), although interestingly the actual label of ‘intellectual disability’ has shown inconsistent relationships with stigma (Scior *et al.* 2013a; Scior *et al.* 2013c).

Despite the dearth of research examining perceptions of dangerousness of those with ID, one study found compared to those diagnosed with schizophrenia, those diagnosed with ID are often seen as affectionate, loving and childlike (Gilmore *et al.* 2003; McCaughey & Strohmer 2005) while another found only 2% of participants from the community and 1% of participants who were teachers thought individuals with Down Syndrome, a genetically based ID, were aggressive (Gilmore *et al.* 2003).

Stigma towards the dual diagnosed

Many stigma studies focus on stigma towards those belonging to one stigmatised group instead of stigma towards individuals belonging to multiple stigmatised groups or ‘double stigma’ (Mizock 2012). Those that have studied double stigma argue it creates a cumulative effect of discrimination and stigmatisation leading to negative consequences in those individuals’ lives (Gary 2005; Thomas & Shute 2006; Scott & Wahl 2011; Mizock 2012). When examining double stigma, some research has focused on perceived amounts of stigma towards those diagnosed with a mental disorder and a stigmatised physical characteristic (Glover *et al.* 2010), while other authors have considered the double stigma of co-morbid mental disorders from a theoretical rather than empirical perspective (Thomas & Shute 2006; Mizock 2012). One study did examine stigma towards those with an ID and co-occurring mental health diagnosis in social workers. They found the stereotype of dangerousness was the strongest predictor of stigmatising behaviours (Araten-Bergman & Werner 2017). Although the impact of belonging to multiple stigmatised groups is not well studied, it has been shown that belonging to multiple stigmatised groups can increase the amount of stigma experienced (Burke-Miller *et al.* 2006; Mizock 2012).

Despite the advancement of research examining double stigma, research examining stigma towards individuals with co-morbid mental disorders is lacking. This is troubling, given that a nationally representative study in the USA showed that over 40% of people diagnosed with a mental disorder met criteria

for more than one diagnosis in a 12-month period (Kessler *et al.* 2005). This lack of research is evident in the fact that despite the Social Distance Scale being a widely used measure examining stigma towards individuals with varying mental disorders (Esterberg *et al.* 2008; Scior *et al.* 2013a; Scior *et al.* 2013b; Scior *et al.* 2013c), no study has used it to measure stigma towards individuals with co-morbid conditions.

Aims of current study

This study aims to address the lack of research examining stigma towards individuals with co-morbid mental illnesses in general and ID and schizophrenia in particular. Additionally, this study hopes to add to the limited amount of stigma research of those diagnosed with an ID (Jorm *et al.* 2012). To address these gaps, we used a vignette design commonly employed in studies of mental health stigma (Lauber *et al.* 2004; Angermeyer & Matschinger 2005a). We randomly assigned participants, all university students, to read one of six vignettes. The six vignettes described individuals who met criteria for (1) schizophrenia with no diagnostic label included; (2) schizophrenia with a diagnostic label included; (3) ID with no diagnostic label; (4) ID with a diagnostic label; (5) schizophrenia and ID with no diagnostic labels; and (6) schizophrenia and ID with diagnostic labels. Participants, then, filled out the social distance scale and the perceived dangerousness scale with respect to the character in their assigned vignette.

Hypotheses

The present study was intended to determine whether people diagnosed with both schizophrenia and an ID elicit a greater desire for social distance than those diagnosed with schizophrenia or ID alone. The study also examined whether labelling the person described in the vignette with a mental health condition would increase the amount of social distance desired or perceived dangerousness over providing no diagnostic label. Based on previous research findings that those belonging to multiple stigmatising groups elicit greater desired amounts of social distance and stigmatisation (Burke-Miller *et al.* 2006; Mizock 2012), it was hypothesised a main effect would emerge for diagnosis for social distance and perceived dangerousness. Specifically, it was hypothesised that participants would desire more social distance from the target in

the vignette diagnosed with co-morbid schizophrenia and ID than they would from individuals diagnosed with schizophrenia or an ID. It was hypothesised that the target with schizophrenia would elicit greater social distance than the target with ID. Because schizophrenia is expected to be seen as the more dangerous compared to other diagnoses (Jorm & Wright 2008; Marie & Miles 2008; Webb *et al.* 2009) while ID is often seen as non-threatening (McCaughey & Strohmer 2005), it was predicted that the schizophrenia diagnosis would be seen as more dangerous than the ID vignette. It is expected that adding ID to the schizophrenia vignette (i.e. the co-morbid diagnosis vignette) would not influence perceived dangerousness of the target negatively because individuals with ID do not evoke much fear (McCaughey & Strohmer 2005). An interaction effect between diagnosis and label was hypothesised for social distance and perceived dangerousness. Specifically, it was hypothesised that vignettes describing schizophrenia which included a diagnostic label (i.e. the schizophrenia vignette and the schizophrenia with ID vignette) would elicit a greater desire for social distance and be perceived as more dangerous than the unlabelled vignettes, based on previous research that found labelling a person described in a vignette as having a mental illness led to increases in the desired amount of social distance and increased perceived dangerousness (Eker 1989; Angermeyer & Matschinger 2003, 2005a, 2005b; Lauber *et al.* 2004; Wright, Jorm, & Mackinnon 2011; Yap, Reavley, Mackinnon, & Jorm 2013). However, it was hypothesised that the vignette with an ID label would lower participants' desire for social distance and perceived dangerousness compared to the unlabelled vignette. This is based upon previous research that found that participants given labelled vignettes of an ID reported less social distance compared to an unlabelled vignette (Scior, Addai-Davis, Kenyon, & Sheridan 2013; Scior *et al.* 2013a; Scior *et al.* 2013c).

Method

Participants

A total of 160 undergraduate students participated in the study as part of a research pool at a university in the Midwest of the USA, which allowed students to take part in research to earn course credit.

Participants were randomly assigned to one of the six conditions as outlined in using a random number generator in Excel. Vignette text is included in the appendix. Participants received one of the six vignettes – schizophrenia, ID or ID and schizophrenia, either labelled or unlabelled.

Materials and measures

The present research was conducted in full accordance with ethical principles, including the World Medical Association Declaration of Helsinki, and was independently reviewed and approved by the university's Institutional Review Board.

At the beginning of the study, participants were asked to complete a demographics questionnaire asking participants about their gender, age and race.

Vignettes

Participants were presented with one of six modified vignettes from the Intellectual Disability Literacy Scale (Scior & Furnham 2011) similar to those used by Scior *et al.* (2013a), which were validated by experts as meeting criteria for their respective disorders according to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (American Psychiatric Association 2000). The vignettes were modified to be better understood by the participants as they may not understand British terms. Modifications included changing 'mum' to 'mom' and 'qualifications' to 'degree'. Additionally, 'intellectual disability' was changed to 'mental retardation' to be better understood by college students although it is not the current scientific term used. This wording is in line with previous research (Tang *et al.* 2000; McManus *et al.* 2011; Georgiadi *et al.* 2012). The vignettes used by Scior and Furnham (2011) were also modified so that each vignette character had the same name and age across the various vignettes to eliminate any possible confounding variables. The modified vignettes depicting an individual with schizophrenia and an individual with ID were those used by Scior and Furnham, while the vignette depicting an individual with both disorders was created by two of the authors of this study (A.R. and D.W) by combining those vignettes mentioned earlier. No new material was added when the vignettes were combined, but it was omitted that the target did fine in school, as it

conflicted with the information presented of struggling in school. Like the labelled and unlabelled vignettes used in Scior *et al.* (2013a), the vignettes either did not provide a diagnostic label for the target or provided the diagnostic label(s) at the beginning of the vignette.

Social distance

Participants were asked to rate their willingness to interact with the person described in the vignette on seven statements using a 4-point Likert scale. Their social distance score was the total of the answers to the seven items with higher scores representing a greater amount of social distance desired. These items are a modified version of the original Social Distance scale created by Bogardus (Bogardus 1925). The modified items were originally presented by (Link *et al.* 1987) and have been used in numerous studies examining social distance towards individuals with mental illness (Angermeyer *et al.* 2004; Schomerus *et al.* 2013). Each item varies in the level of intimacy required of an intended response to the person described in the vignette. For example, items range from 'How would you feel having someone like Adam as a neighbor?' to 'How about having your children marry someone like Adam?'

The items were presented as they appeared in Link *et al.* (1987), except for the modification of changing 'Jim Johnson' to the name used in the vignette (Adam) and the modification of 'a young woman you are friendly with' to 'a friend' consistent with other studies (Litzcke 2006; Loch *et al.* 2013). Several studies have found the Social Distance Scale to have good to excellent internal-consistency reliability ranging from 0.75 to 0.92 (Angermeyer & Matschinger, 2004; Link *et al.* 1987, 2004). It has also been stated by Link and colleagues (2004) that there is a large amount of evidence supporting the scale's validity, especially the scale's construct validity.

Perceived dangerousness

Participants were asked to complete a modified version of the Perceived Dangerousness of Mental Patients Scale (Link *et al.* 1987) in reference to the vignette they read. The Perceived Dangerousness Scale includes eight self-report items that assess participants' perception of how dangerous individuals with mental illness are by having them rate their level

of agreement on a 6-point Likert scale. Items include 'People like Adam cannot be trusted', to 'The public needs to be protected from people like Adam'. The scale items appeared as they did in Link *et al.* (1987) with slight modification. In questions that asked about a 'former mental patient' or a 'group of former mental patients', it asked about 'someone like Adam', the name of the person in the vignettes. It has been found that the Perceived Dangerousness Scale has good internal consistency reliability (Angermeyer *et al.* 2004) and good construct validity as evident by the lack of correlation ($r = 0.106$) between the Social Distance Scale and the Perceived Dangerousness Scale (Link *et al.* 1987).

Social desirability

Due to the fact that participants may have tried to present themselves in a socially desirable light by endorsing less stigmatising attitudes towards the target depicted in the vignettes, participants were asked to complete the Marlowe-Crowne Social Desirability Scale (MCSDS) (Crowne & Marlowe 1960) which assesses participants' response style. The MCSDS is composed of 33 true-false items that measures the tendency of participants to respond in a socially desirable manner. Items include 'I have never intensely disliked anyone', and 'I always try to practice what I preach'. In several studies, it has been found that the MCSDS has reliability ranging from .80 to .88 (Crowne & Marlowe 1960; Norman, Sorrentino, Windell, & Manchanda 2008). When compared to the Edwards Social Desirability Scale, another social desirability scale, it was found that they significantly correlated at .35-.37 (Crowne & Marlowe 1960; Tanaka-Matsumi & Kameoka 1986).

Familiarity

Familiarity with the disorders was assessed after the participants completed the other questionnaires using a modified version of the Level of Contact Report (Holmes *et al.* 1999). This questionnaire has been used in stigma research to increase statistical power compared to measuring familiarity categorically (Corrigan *et al.* 2001; Griffiths *et al.* 2008).

Participants were asked to read each of the 12 statements of varying levels of contact with individuals with schizophrenia or ID and to place a check by each statement that applied to him or her

personally. The directions and questions were modified to ask participants their level of contact to persons with 'schizophrenia' on one form and with someone with 'mental retardation' on the other form to apply to all the vignettes and to be more easily understood by participants. The participant's score equals the most intimate situation that he or she placed a check next to even if they checked several items. When the scale was developed, the 12-different items were ranked in terms of intimacy of contact. It was found that rank-order correlations summarising interrater reliability resulted in a mean of .83 (Holmes *et al.* 1999).

Procedure

The study took place in a research lab on campus grounds. Participants first reviewed an informed consent document and provided informed consent before beginning the study. First, they completed a demographics questionnaire. Then, the participants were given the vignette which corresponded to their randomly assigned group. Following that, they were asked to read the vignette and complete the Social Distance Scale and the Perceived Dangerousness Scale (via paper and pencil) while thinking of the individual described in the vignette. Participants were then asked to complete the Social Desirability Scale and the Level of Contact Report. Lastly, participants were given course credit whenever they discontinued their participation, whether it was at the end or some point before, although no one discontinued prematurely.

Results

Participant demographics are outlined in Table 1. To determine the need to add demographic variables as covariates to primary analyses, preliminary analyses were performed to determine whether social desirability scores, level of contact with the mental illnesses described or demographic variables were associated with the dependent variables – desired social distance and perceived dangerousness. No relationships emerged between social distance and age, $r(158) = 0.036$, $P = 0.655$, gender, $t(158) = 0.299$, $P = 0.765$, race, $F_{2,155} = 1.814$, $P = 0.166$, level of contact schizophrenia $r(157) = -0.081$, $P = 0.311$ or level of contact ID r

Table 1 Participant demographics

Characteristics	N	(%)
Sex		
Male	21	13.13
Female	139	86.88
Race		
Caucasian	115	71.88
African American	18	11.25
Other	25	15.63
Age*	21.19	5.51

*Age reported in mean and standard deviation.

(153) = -0.054, $P = 0.509$). Perceived dangerousness was not significantly related to age, $r(158) = 0.091$, $P = 0.252$, gender, $t(158) = 1.392$, $P = 0.166$, level of contact schizophrenia $r(157) = 0.044$, $P = 0.584$ or level of contact, $r(153) = 0.008$, $P = 0.921$. A significant effect emerged, however, between race and perceived dangerousness, $F_{2,155} = 3.082$, $P = 0.049$, such that African American participants ($M = 19.44$, $SD = 7.18$) perceived the target to be more dangerous than did Caucasian participants ($M = 15.92$, $SD = 6.04$), while those classified as 'Other' race did not differ significantly from either group ($M = 17.68$, $SD = 5.83$). As a result, race was entered as a covariate for primary analyses. Neither social distance, $r(158) = -0.023$, $P = 0.772$, nor perceived dangerousness, $r(158) = 0.039$, $P = 0.627$, were significantly associated with social desirability scores.

A 3 (diagnosis: ID, schizophrenia, ID + schizophrenia) by 2 (label: labelled, unlabelled) multivariate analysis of covariance was performed with social distance and perceived dangerousness as outcome variables. Race was included as a covariate. The overall model was a significant fit, $F_{2,150} = 16.273$, $P < 10^{-5}$, $\eta^2 = 0.178$, with significant main effects for label, ($P < 10^{-5}$), diagnosis, ($P < 0.001$), and a significant interaction between label and diagnosis ($P < 0.05$) (Table 2).

The multivariate analysis of covariance was followed up with a six-group discriminant analysis (Field 2013) with race as a covariate, which revealed two significant functions (i.e. two independent linear combinations) that significantly discriminated between the six groups (Table 2). These functions can be interpreted by referring to the structure matrix

Table 2 Summary results from MANCOVA and discriminant function analysis

MANOVA fixed factor	F	df	P<
Race	2.04	2,150	0.134
Label***	16.273	2,150	10^{-5}
Diagnosis**	4.969	4,302	0.001
Label × diagnosis*	3.218	4,302	0.02
Discriminant function analysis summary	χ^2	df	P<
Function 1***	65.602	15	10^{-5}
Function 2**	20.966	8	0.008
Function 3	2.653	3	0.448

* $P < 0.05$,

** $P < 0.01$,

*** $P < 0.001$.

MANCOVA, multivariate analysis of covariance.

in Table 3. Function one most closely corresponds to SD and explains 70.1% of the overall variance (canonical $R^2 = 0.25$), whereas function two most closely corresponds to PD and explains 26.3% of the total variance (canonical $R^2 = 0.11$). The third function, corresponding to race, accounted for only 3.6% of the variance and was not a statistically significant fit to the data ($P = 0.45$). For the purposes of cautiousness in interpretation, it should be noted that perceived dangerousness showed some loading on the first function as did social distance on the second function.

Table 4 shows the mean scores for each vignette type on the two significant functions. From this table, it can be seen that unlabelled vignettes yielded reliably increased desired social distance relative to labelled vignettes. In addition, the order of scores on function one by diagnosis suggests that schizophrenia consistently elicited increased desired social distance whereas the presence of ID consistently decreased desired social distance. When these diagnoses were co-morbid, there did not appear to be a double stigma reaction. On the contrary, co-morbid ID and schizophrenia was associated with slightly lower social distance than schizophrenia alone.

Scores on function two (perceived dangerousness) were less parsimonious in terms of their ability to discriminate between vignettes. Overall, schizophrenia vignettes – whether labelled or unlabelled – tended to elicit greater perceived dangerousness. However, one notable exception was

Table 3 Structure matrix

Variable	Function		
	1	2	3
Social distance	0.967*	0.25	0.059
Perceived dangerousness	0.418	0.853*	-0.313
Race	-0.007	0.463	0.886*

*Largest absolute correlation between each variable and discriminant function.

Table 4 Group centroids from six-group discriminant function analysis

Vignettes		Function	
Diagnosis	Label	1 (SD)	2 (PD)
SZ	No label	0.516	0.061
SZ + ID	No label	0.51	0.32
ID	No label	0.32	-0.628
SZ	Labelled	-0.061	0.429
SZ + ID	Labelled	-0.133	-0.249
ID	Labelled	-1.154	0.007

labelled co-morbid schizophrenia and ID, which appeared to elicit relatively little perceived dangerousness even when compared with labelled ID. Interestingly, this vignette also appeared to elicit relatively low desired social distance, although not as low as labelled ID by itself.

Conclusions

The present study sought to assess the impact of label, whether a label was provided or not, and the impact of diagnosis (i.e. schizophrenia versus ID versus schizophrenia and ID) on the amount of social distance desired from and perceived dangerousness of a hypothetical target. This study investigated how dangerous those diagnosed with an ID are perceived to be, a question often overlooked in research, as well as assessed the impact of dual diagnoses upon perceived dangerousness and the amount of social distance desired. As most previous research has examined dual diagnosis by assessing the impact of a

mental condition and a stigmatised physical condition (e.g. being elderly or being overweight; Burke-Miller *et al.* 2006; Scott & Wahl 2011; Mizock 2012), assessing the impact of two psychological disorders was considered a useful addition to the field.

Participants in the present study reported desiring the most social distance from the no label conditions compared to the conditions that provided a label. When examining the impact of diagnosis, participants endorsed wanting higher levels of social distance from the schizophrenia target compared to the dual diagnoses and the ID targets. In terms of perceived dangerousness, participants viewed the labelled schizophrenia target and no label dual diagnoses target as the most dangerous compared to the labelled dual diagnoses target and no label ID target, which were viewed as least dangerous. In general, the targets with schizophrenia were viewed as more dangerous than those with ID. One exception was the labelled schizophrenia and ID target, which was only viewed as more dangerous than the no label ID target. As expected, participants perceived the target with only schizophrenia to be more dangerous than the target with only ID and desired the least social distance from the ID target, which is consistent with the large body of research indicating individuals with schizophrenia are seen as threatening (Scior 2011; Scior *et al.* 2013c).

Results for the impact of label on social distance desired from the targets in the vignette were unexpected. We thought labels would increase social distance for the two vignettes that included a schizophrenia label and decrease social distance for the person with a single ID label. Instead, participants desired less social distance from labelled targets than unlabelled targets, regardless of the diagnosis condition. It is possible that the wording of our vignettes diverged from past studies in important ways. Our vignettes highlight the disorganised dimensions of schizophrenia (Appendix 1), but other study vignettes used in studies of the stigma of schizophrenia tend to emphasise psychosis and social isolation rather than disorganisation (e.g. Link *et al.* 1999; Phalen *et al.* 2018). Our vignettes also differed from these studies in depicting the subject as afraid of his experiences, which could have elicited greater empathy. In the literature, it is becoming increasingly evident that the specific nature of symptoms can be more relevant to stigma than the overarching

diagnostic category, and future studies will need to be clear about the details of the stigma targets being studied (Phalen *et al.* 2018).

The label finding for perceived dangerousness was also unexpected. Specifically, participants viewed the no label co-morbid diagnoses vignette as the second *most* dangerous target, but when participants were provided labels in the co-morbid diagnoses vignette the target was rated the second *least* dangerous vignette. However, in both the labelled and unlabelled conditions, participants desired similar amounts of social distance from the target with schizophrenia and ID as they did from the target with schizophrenia alone.

It may be that the inclusion of the ID label decreased the similarity between the target and overall category of individuals with schizophrenia when considering the construct of dangerousness (Nisbett *et al.* 1981; Peters & Rothbart 2000). People with schizophrenia are typically seen as dangerous (Marie & Miles 2008). By adding an ID label to the schizophrenia label, participants may have viewed the target as less like the stereotypical individual with schizophrenia, and therefore as less dangerous, than when the target was described as having schizophrenia alone. However, as both those with ID and those with schizophrenia elicit very high levels of social distance (Westbrook *et al.* 1993), the addition of the ID label to the schizophrenia label may have had less of an effect on social distance.

The co-morbid diagnoses findings may also be due to the emotional reaction participants felt in response to the vignette when labels were provided. Some studies have suggested that interacting with individuals with ID makes others feel anxious and uneasy to interact with socially (Scior 2011), despite beliefs that individuals with ID are innocent and affectionate (Gilmore *et al.* 2003; McCaughey & Strohmer 2005). Thus, the schizophrenia symptoms may have increased participants' hesitation to interact with the co-morbid diagnoses target socially while not increasing their fear of interaction, which was already high in the single diagnosis ID condition.

It is interesting to consider the role messages from the media may play and how that may have affected participants' responses in the present study. When examining media messages about mental illnesses, it is clear that the media portrays those with mental illnesses and specifically those with schizophrenia in a

negative light and as a danger to others (Stout *et al.* 2004; Klin & Lemish 2008; Babic 2010). It has been noted that the media uses sensational headlines while generalising one negative incident to an entire group of individuals with mental illness (Babic 2010) while others have suggested that the media largely contributes to negative attitudes and stigma towards those with a mental illness (Klin & Lemish 2008). It has been noted that this practice even occurs in children's media (Wahl 2003; Wahl *et al.* 2007). It may have been too difficult for participants to imagine the target with the label of schizophrenia and an ID to be like the media portrayal of those with schizophrenia, leading participants to rate the target labelled with dual diagnoses as not particularly dangerous. However, although participants may not have seen the labelled dual diagnoses target as dangerous as someone with schizophrenia as portrayed in the media, possibly the participants would not desire to be closer to him in social situations. The target still has schizophrenia, which often leads to greater social distance (Marie & Miles 2008; Jorm & Oh 2009). Participants may have reasoned that he was relatively harmless because his ID made him unlikely to have the intelligence to harm others.

Limitations and future directions

The present study had numerous strengths, including highly controlled vignettes that varied minimal information, permitting understanding the unique relationship to the variables of interest. The homogeneity of the sample, however, is a considerable limitation. All participants were recruited from a university research pool in a psychology department. This limits the generalisability to other populations as students in psychology courses may have a better understanding of schizophrenia and ID, leading to the more positive attitudes in the label conditions. Additionally, they may show more empathy towards individuals with mental health difficulties when compared to the public. Furthermore, most participants were Caucasian females between the ages of 18–21, which limits generalisability as well. Most studies have found women to show less stigmatising attitudes towards individuals with mental disorders than men (Mann & Himelein 2004; Webb *et al.* 2009).

However, as male targets are often more stigmatised than female targets (Jorm & Oh 2009), it is unclear how the results would have changed had there been more male participants, especially since all of the targets presented in the present study were male. Future studies may want to examine the impact of the target's gender on study variables.

Future studies would benefit from adding measures to assess participants' emotional reactions, decision-making tactics, (Angermeyer & Matschinger 2005b; Scior *et al.* 2013a; Warman *et al.* 2015), and media influence. Measuring these constructs would help researchers more fully understand the relationships revealed in the present study when examining stigma towards individuals with dual diagnoses. The study may also have benefited from the addition of a normative control vignette, as our design did not allow us to determine, for example, whether an ID label elicits decreased perceptions of dangerousness or only serves to attenuate fears about persons with schizophrenia. Additionally, it may be beneficial to assess participants' understanding of the diagnoses and experiences presented in the vignettes by assessing the labels participants provide and why. In future studies, it may also help to assess the impact of the word 'danger' in the schizophrenia vignette as this may have primed participants to rate this vignette as more dangerous compared to if the word had been omitted. Additionally, as this is a vignette study, the findings only shed light on how participants believe they would react and how they would feel if they encountered someone like the target in the vignette. The findings do not explain how people would actually respond to individuals similar to the target described. In future research, it would be valuable to try to find methods of assessing behavioural action, not only behavioural intent (i.e. social distance desired from the target as reported by the participant).

In sum, the present study set out to evaluate the influence of label and diagnosis on certain facets of stigma, specifically social distance and perceived dangerousness. There was mixed support for the hypotheses. It was found that labelling led to lower desired levels of social distance but high levels of perceived dangerousness, except for the dual diagnoses target. When provided labels for the dual diagnoses target, participants perceived the target as less dangerous than when a label was not provided. While this study adds to the research on stigma

towards those with an ID as well as the impact of dual diagnoses upon different facets of stigma, more research is needed to further assess the impact and saliency of different diagnostic labels and behavioural manifestations.

Conflict of Interest

All authors declare no conflicts of interest for the present study.

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Appendix I

Intellectual disability vignette with label

Adam has a diagnosis of mental retardation. He is 23 and lives at home with his parents and younger brother. He found school a struggle and left without any degree. He has had occasional casual jobs since. When his parents try to encourage him to make plans for his future, Adam has few ideas or expresses ambitions that are well out of his reach. Rather than having him at home doing nothing, his mom has been trying to teach Adam new skills, such as cooking a meal, but Adam has struggled to follow her instructions. He opened up a bank account with his parents' help, but has little idea of budgeting and, unless his parents stop him, will spend all his money on comics and DVDs as soon as he receives his money.

Schizophrenia vignette with label

Adam was recently diagnosed as having schizophrenia. He is 23 and lives at home with his parents. He did fine at school, but has only had a few casual jobs since. Over recent months, he has spent lots of time alone, locked in his bedroom and frequently refuses to eat with his parents or have a bath. He sometimes gets very agitated for little apparent reason, and his parents have heard him talking loudly even when he is alone in his bedroom. At times, they find his speech disorganised and hard to follow. When his parents encourage him to make plans for his future, he says that is too dangerous.

They are certain he is not taking drugs because he never sees anyone or goes anywhere.

Schizophrenia and intellectual disability vignette with label

Adam has a diagnosis of mental retardation and was recently diagnosed as having schizophrenia. He is 23 and lives at home with his parents. He found school a struggle and left without any degree. He has had occasional casual jobs since. When his parents try to encourage him to make plans for his future, Adam has few ideas or expresses ambitions that are well out of his reach. Rather than having him at home doing nothing, his mom has been trying to teach Adam new skills, such as cooking a meal, but Adam has struggled to follow her instructions. He opened up a bank account with his parents' help, but has little idea of budgeting and, unless his parents stop him, will spend all his money on comics and DVDs as soon as he receives his money. Over recent months, he has spent lots of time alone, locked in his bedroom and frequently refuses to eat with his parents or have a bath. He sometimes gets very agitated for little apparent reason and his parents have heard him talking loudly even when he is alone in his bedroom. At times, they find his speech disorganised and hard to follow. They are certain he is not taking drugs because he never sees anyone or goes anywhere.

Schizophrenia vignette without label

Adam is 23 and lives at home with his parents. He did fine at school, but has only had a few casual jobs since. Over recent months, he has spent lots of time alone, locked in his bedroom and frequently refuses to eat with his parents or have a bath. He sometimes gets very agitated for little apparent reason and his parents have heard him talking loudly even when he is alone in his bedroom. At times, they find his speech disorganised and hard to follow. When his parents encourage him to make plans for his future, he says that is too dangerous. They are certain he is not taking drugs because he never sees anyone or goes anywhere.

Schizophrenia and intellectual disability vignette without label

Adam is 23 and lives at home with his parents. He found school a struggle and left without any degree.

He has had occasional casual jobs since. When his parents try to encourage him to make plans for his future, Adam has few ideas or expresses ambitions that are well out of his reach. Rather than having him at home doing nothing, his mom has been trying to teach Adam new skills, such as cooking a meal, but Adam has struggled to follow her instructions. He opened up a bank account with his parents' help, but has little idea of budgeting and, unless his parents stop him, will spend all his money on comics and DVDs as soon as he receives his money. Over recent months, he has spent lots of time alone, locked in his bedroom and frequently refuses to eat with his parents or have a bath. He sometimes gets very agitated for little apparent reason, and his parents have heard him talking loudly even when he is alone in his bedroom. At times, they find his speech disorganised and hard to follow. They are certain he is not taking drugs because he never sees anyone or goes anywhere.

Intellectual disability vignette without label

Adam is 23 and lives at home with his parents and younger brother. He found school a struggle and left without any degree. He has had occasional casual jobs since. When his parents try to encourage him to make plans for his future, Adam has few ideas or expresses ambitions that are well out of his reach. Rather than having him at home doing nothing, his mom has been trying to teach Adam new skills, such as cooking a meal, but Adam has struggled to follow her instructions. He opened up a bank account with his parents' help, but has little idea of budgeting and, unless his parents stop him, will spend all his money on comics and DVDs as soon as he receives his money.