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The Beliefs about Paranoia Scale: Preliminary Validation of a Metacognitive Approach to Conceptualizing Paranoia

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Abstract. This study reports the development of a self-report measure to assess metacognitive beliefs about paranoia in non-patients. We aimed to test the specific hypotheses that positive beliefs about paranoia would predict frequency of paranoia, and that negative beliefs about paranoia would predict distress associated with delusional ideation. Three-hundred and seventeen non-patient participants were asked to complete questionnaires assessing beliefs about paranoia, paranoia, dimensions of delusional ideation and trait anxiety. The results showed that four empirically distinct subscales were measured by the beliefs about paranoia scale (negative beliefs about paranoia, beliefs about paranoia as a survival strategy, general positive beliefs and normalising beliefs). The scales possessed acceptable internal consistency and were associated with the measures of paranoia, delusional ideation and anxiety. Consistent with predictions, it was found that beliefs about paranoia as a survival strategy were associated with frequency of paranoia, and negative beliefs were associated with distress

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associated with delusional ideation. These findings suggest that a metacognitive approach to the conceptualization of paranoia as a strategy for managing interpersonal threat may have some utility. The clinical implications of the findings are also discussed.

Keywords: Paranoia, persecutory delusions, psychosis, cognitive, beliefs.

Introduction

There are several possible definitions of paranoia. Persecutory delusions, often referred to as paranoid delusions, are defined in DSM-IV (American Psychiatric Association, 1994) as being a delusion in which the central theme is that one (or someone to whom one is close) is being attacked, harassed, cheated, persecuted or conspired against. Paranoia is also defined as "a disordered mode of thought that is dominated by an intense, irrational, but persistent mistrust or suspicion of people and a corresponding tendency to interpret the actions of others as deliberately threatening or demeaning" (Fenigstein, 1994, p. 83). Paranoia occurs across a wide range of psychopathologies, such as depression, social phobia, personality disorder and psychosis (American Psychiatric Association, 1994). It is, however, a common experience that is not unique to clinical populations; sub-clinical paranoia is defined as a style of thought manifested by exaggerated self-referential biases that arise in ordinary, daily behaviour (Fenigstein and Vanable, 1992). This mode of thought is characterized by relatively consistent biases toward suspiciousness, feelings of resentment and ill will, mistrust and a belief in external control (Fenigstein and Vanable, 1992).

Paranoia can be conceptualized as a response to the perception of interpersonal threat and has profound ramifications for individuals' quality of life and interpersonal functioning. A key characteristic of paranoia is highlighted by the work of Trower and Chadwick (1995) who argue that the sources of threat are a solely *interpersonal* negative evaluation. As such, the process is assumed to be *dynamic* and may, therefore, respond to momentary changes of circumstances. Fenigstein (1984), in a series of three studies, found that self-consciousness increased the extent to which participants perceived another's behaviour as being directed towards them (the *self-as-target bias*), and that the tendency to over perceive oneself as a target is a robust phenomenon, which is influenced by the tendency to be self-conscious or in other words, is enhanced by the process of directing attention to the self (Fenigstein, 1984; Fenigstein and Vanable, 1992).

Recent work in the field of psychosis has highlighted the important role played by anxiety processes in the maintenance of delusional distress (Freeman and Garety, 1999; Morrison and Wells, 2000). Persecutory delusions are associated with abnormal attention to threat-related stimuli (Bentall and Kaney, 1989; Freeman, Garety and Phillips, 2000; Kinderman, 1994). Kinderman (1994) found that individuals with persecutory delusions have a specific attentional bias for information relating to self-concept. In addition, persecutory delusions are associated with an explanatory bias towards attributing negative outcomes to external personal causes, which is an exaggeration of the self-serving bias found in non-patients (Candido and Romney, 1990; Fear, Sharp and Healy, 1996; Kaney and Bentall, 1989; Won and Lee, 1997).

Metacognition and psychological dysfunction

The S-REF Model (Wells and Matthews, 1994) may provide a useful framework for understanding vulnerability to and maintenance of paranoid ideation. The model suggests that

vulnerability to psychological dysfunction is linked with a cognitive attentional syndrome characterized by heightened self-focused attention and attentional involvement of meta-cognitive beliefs in vulnerability to and maintenance of psychopathology (Wells and Matthews, 1994). This model has proved useful in understanding meta-cognitive processes involved in vulnerability to and maintenance of worrying in GAD (Wells, 1995). Wells (1995) argues that individuals who have positive beliefs about worry may have thoughts such as, "worrying helps me cope" or "worrying helps me solve problems".

Metacognition and psychosis

Wells and Butler (1997) suggested that positive beliefs about hallucinations might be associated with efforts to engage with and maintain particular hallucinatory experiences. Research has supported this suggestion, showing that voices viewed as benevolent were more likely to be engaged by service users (Chadwick and Birchwood, 1994). Morrison, Wells and Nothard (2002) examined meta-cognitive beliefs about hallucinations by developing a self-report measure to assess interpretations of voices (Interpretations of Voices Inventory: IVI) and a revision of the Launay-Slade Hallucination Scale (Launay and Slade, 1981) to measure predisposition to hallucinations. Support was found for their prediction: positive beliefs about voices were significantly associated with predisposition to hallucinations and negative beliefs with endorsing an item measuring troublesome voices. Morrison, Wells and Nothard (2000) suggested that it may be the development of negative beliefs about hallucinations that underlies the transition from normal to pathological hallucinatory experiences. As mentioned earlier, a similar mechanism involving positive and negative beliefs about worry is a key feature in a recent model of generalized anxiety disorder (Wells, 1995).

Metacognition, worry and paranoia

Morrison (2001) has suggested that, "Positive beliefs about unusual experiences or beliefs may be implicated specifically in the development of psychotic symptoms; for example, a patient may take substances to induce such phenomena, deliberately allocate attention to such phenomena, or such phenomena may occur as a coping response as suggested by Romme and Escher (1989). It would only be when such psychotic experiences are appraised as uncontrollable or dangerous, or lead to negative environmental consequences (such as problems with occupational and social functioning), that they become problematic." (p. 265). Morrison, Frame and Larkin (2003) have suggested that the adoption of paranoia and suspiciousness as a strategy to avoid aversive experiences is related to traumatic events earlier in life (which psychotic patients have a high incidence of – see Read, 1997). Janssen et al. (2003) have reported that perception of discrimination is linked to delusional ideation. They propose that chronic experiences of discrimination may have effects on individuals' attributions for daily events, thus facilitating an understandably paranoid attributional style. In a similar vein, Knight (2002) suggests that the mental health system can itself be paranoia inducing. This suggests that life experiences, including those in the mental health system, may contribute to the development of positive beliefs about paranoia as a survival strategy and to the use of paranoia as a response to the perception of interpersonal threat.

The S-REF model indicates that, as with worry, paranoia may be conceptualized as a strategy more frequently used by persons with positive beliefs about their paranoia; such positive beliefs

may include beliefs about paranoia as a survival strategy or paranoia as a way of making life more interesting (Morrison, Renton, Dunn, Williams and Bentall, 2003). Distress may develop when a state of cognitive dissonance is caused by the activation of negative beliefs about the individual's paranoia. Both paranoia and worrying can be seen as strategies for managing threat. Worrying and paranoia differ, in that paranoia is concerned with interpersonal threat (Fenigstein and Vanable, 1992), whereas worry is concerned with a range of topics such as external daily events and internal events that are non-cognitive such as bodily sensations (Wells, 1995). As with worry, it is proposed that the beliefs that an individual holds about paranoia will play a pivotal role in the selection of paranoia in response to interpersonal threat and whether distress ensues as a result of paranoid thinking.

Little research has examined metacognitive beliefs and worry processes in relation to paranoia. Freeman and Garety (1999) found that, as with distress about worry seen in GAD, delusional distress was not simply related to the content of thoughts. An association was found between delusional distress and whether the individual experiences meta-worry concerning the control of delusional ideation. Morrison and Wells (2003) found that patients with persecutory delusions scored significantly higher than non-patients on several types of negative metacognitive beliefs. These results are clearly consistent with Wells and Mathews' (1994) suggestion that metacognitive beliefs about mental experiences are associated with vulnerability to psychological disorder.

Therefore, the current study set out to investigate (a) the psychometric properties of a new questionnaire developed to measure individuals' beliefs about paranoia and (b) to examine whether individuals' beliefs about paranoia is predictive of their experience of paranoid thinking and its associated distress. It was specifically hypothesized that, in a non-patient sample, positive beliefs about paranoia (e.g. paranoia as a safety strategy) would be associated with higher frequency of paranoid thinking, and that negative beliefs about paranoia would be associated with distress arising from paranoia thinking.

Method

Participants

Three-hundred and seventeen participants were included in the study. All participants were undergraduate students, with the exception of 30 people in various types of employment. The mean age of the group was 19.01 years ($SD = 8.74$). The male: female ratio was 95:222.

Materials

Peters Delusions Inventory (PDI: Peters, Joseph, and Garety, 1999). This is a 21-item questionnaire that measures beliefs and mental experiences. For each delusional belief endorsed, questions also assess associated distress, preoccupation, and conviction. First the participant has to circle "Yes" or "No"; if the answer is "Yes", then they have to rate each of the 3 sub-scales with a number from 1–5. The sub-scales concern how distressing the belief is, preoccupation with the thought, and conviction in the belief. This measure is reliable and has been shown to have good test-re-test reliability.

Paranoia Scale (PS: Fenigstein and Vanable, 1992). This consists of 20 items that are concerned with personal feelings, attitudes, traits and behaviours that are characteristic of

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paranoia. Participants have to decide how well each statement applies to them using the following choices, with 1 = not at all applicable, 2 = slightly applicable, 3 = moderately applicable, 4 = highly applicable, 5 = extremely applicable.

State-Trait Anxiety Inventory (STAI: Spielberger, Gorusch, Lushene, Vagg and Jacobs, 1983). Trait anxiety was measured using the Trait anxiety subscale (version Y2) of this inventory. STAI-trait scores range from 20 (almost never anxious) to 80 (almost always anxious).

Beliefs about Paranoia Scale (BAPS). A 31-item questionnaire was developed to measure beliefs about paranoia. Items were generated on the basis of clinical knowledge of patients experiencing persecutory delusions, and included positive and negative interpretations. Each item was scored on a 4-point scale to measure conviction (1 = not at all, 2 = somewhat, 3 = moderately so, 4 = very much).

Procedure

Participants completed the questionnaires in the order listed above and returned them to the research assistant. Only the first 123 participants completed the STAI (for the purposes of concurrent validation), and 206 participants completed the PDI and PS. The total battery of questionnaires took approximately 15 minutes to complete.

Data analysis

Several of the variables were not normally distributed; therefore, non-parametric analyses were used where appropriate. A linear structural equations approach to confirmatory factor analysis (CFA), as implemented in EQS (Bentler, 1995), is used in this study to establish the structure of the BAPS. The adequacy of competing models was assessed through an examination of a variety of fit indices. Model χ^2 and the Comparative Fit Index (CFI: Bentler, 1998) were utilized to estimate overall and incremental model fit. We further report the Root Mean Square of Approximation (RMSEA: Browne and Cudeck, 1993) and Akaike's information criterion (AIC: Akaike, 1987). Due to poor multivariate normality, we employed the maximum likelihood (ML) method with Satorra and Bentler's "robust" correction (Satorra and Bentler, 1994), which adjusts the model statistical output for deviation from normality. This method produces a scaled χ^2 statistic and robust standard errors with which to test the statistical significance of the model parameters. Other fit indices employed (CFI, RMSEA, AIC) were also adjusted using the Satorra-Bentler scaled chi square statistic (S-B χ^2) in their calculation.

Results

Factor structure of BAPS

Exploratory factor models and the clinically guided item construction suggested a five or four factor model for the BAPS. All CFA were conducted on raw data. The obtained non-normal distributions were expected; however, the use of non-normal data may attenuate or distort relations among variables and compromise model fits. Therefore CFA in EQS was conducted using maximum likelihood estimation with the Satorra-Bentler scaled chi-square (S-B χ^2)

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Table 1. Fit indices for CFA models of BAPS

Model	S-B χ^2	*df*	RCFI	RMSEA	AIC
Five Factor Model	2018.95*	560	.69	.09	1005.77
Four Factor Model	899.11*	428	.84	.05	43.11

* $p < .05$.

and adjustments to the standard errors to account for non-normality in model fit statistics and significance testing (Bentler and Dudgeon, 1996). The fit statistics for these CFA models are presented in Table 1.

It can be seen that the five-factor model has very poor fit; low fit indices and large χ^2. The χ^2 of the initial four factor model also suggests poor fit, but with improved fit indices, RCFI approaching .85 and RMSEA index of .05, and all items loaded highly on the appropriate construct (see Table 2). Factor four only consists of three items, creating an imbalanced structure for the BAPS. Future scale development will aim to strengthen factors three and four to construct a more coherent measure of beliefs about paranoia. The reliability (internal consistency) of the BAPS' total score was estimated using Cronbach's alpha; alpha was 0.93.

It appears that the four factors measure, respectively, negative beliefs about paranoia, beliefs about paranoia as a survival strategy, general positive beliefs about paranoia, and normalizing beliefs about paranoia. The internal consistency of the four factors was approximated using Cronbach's alpha; Factor 1 $\alpha = 0.83$, Factor 2 $\alpha = 0.80$, Factor 3 $\alpha = 0.49$; Factor 4 $\alpha = 0.60$. The relatively poor internal consistency of factors three and four of the BAPS reflect further the need to develop these factors further in order to create a balanced measure of beliefs about paranoia.

Predictive validity

In order to examine the predictive validity of this measure, correlational analyses were performed (using Spearman's rho) between the subscales of the BAPS and the PDI total, PDI distress, PDI conviction, PDI preoccupation, Paranoia Scale and STAI. The correlation coefficients are shown in Table 3.

Predictors of paranoia

In order to examine the factors that predicted paranoia, a multiple regression analysis was conducted using PS total as the dependent variable. The independent (or predictor) variables included in the analysis were PDI total on step 1, and the beliefs about paranoia subscales on step 2. The results of the final multiple regression equation can be seen in Table 4.

The multiple R was 0.712 and significant ($F\,(5, 194) = 39.98$, $p < .001$). The adjusted R^2 was 0.50 indicating that a large amount of the variance was accounted for by these predictor variables. An examination of the tolerances of the individual variables found them to be acceptably high, indicating that colinearity was not a problem. On step 1, with PDI total entered, the adjusted R^2 was 0.26 and the multiple R was 0.513 and significant. On the final step, when BAPS subscales were entered, the increment in R^2 of 0.24 was significant

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Table 2. BAPS items with factor loadings from confirmatory factor analysis (four factor model)

Scale/item		Factor 1	Factor 2	Factor 3	Factor 4
1.	My paranoia is useful for avoiding trouble		.601		
2.	In the past if I had not been paranoid I could have got hurt		.599		
3.	Bad things happen so it helps to be paranoid		.691		
4.	My paranoia gets out of control	.722			
5.	My paranoia stops me from talking to some people	.658			
6.	I get upset when I feel paranoid	.620			
7.	Being paranoid makes me an interesting person			.610	
8.	It is important to be paranoid		.662		
9.	If I were not paranoid others would take advantage of me		.715		
10.	My paranoia stops me from feeling close to others	.625			
11.	My paranoia keeps people off my back		.565		
12.	It is safer to be paranoid		.790		
13.	My paranoia prevents me from doing things I enjoy	.675			
14.	If I were not paranoid then I would lose control			.648	
15.	My paranoid thoughts worry me	.717			
16.	Life has taught me to be paranoid of other people.	.711			
17.	My paranoia is a coping strategy	.595			
18.	My paranoia keeps me on my toes		.685		
19.	Being paranoid keeps me sharp		.712		
20.	My paranoia upsets other people	.635			
21.	Paranoia can make life seem more exciting and exhilarating			.636	
22.	Everybody is paranoid on some level				.730
23.	My paranoia means I have difficulty trusting others	.607			
24.	Being paranoid or suspicious keeps me safe from harm		.748		
25.	My paranoia gets exaggerated	.698			
26.	I will always feel paranoid to some extent	.665			
27.	My paranoia protects me		.770		
28.	Paranoia is something everybody has to some extent				.869
29.	Being paranoid is just human nature				.779
30.	My paranoia distresses me	.728			
31.	Life would be dull if it wasn't for my paranoia			.633	

Table 3. Correlation matrix

Variable	STAI	PS	PDI total	PDI distress	PDI preocc.	PDI conviction
Negative beliefs	.627**	.566**	.319**	.456**	.370**	.424**
Survival strategy beliefs	.389**	.461**	.233**	.302**	.242**	.261**
General positive beliefs	.224**	.304**	.170**	.229**	.211**	.218**
Normalizing beliefs	.193*	.330**	.217**	.227**	.231**	.201**

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

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Table 4. Regression summary statistics for PS total

	Partial *r*	Beta	*F*	Sig. of *F*
PDI total	.37	.30	30.49	.000
Negative beliefs	.42	.40	41.49	.000
Survival strategy beliefs	.15	.17	4.62	.033
General positive beliefs	.00	.00	.00	NS
Normalizing beliefs	.07	.06	1.05	NS

Table 5. Regression summary statistics for PDI distress

	Partial *r*	Beta	*F*	Sig. of *F*
PS total	.38	.43	31.87	.000
Negative beliefs	.19	.20	6.74	.010
Survival strategy beliefs	.01	.01	.01	NS
General positive beliefs	.10	.10	1.76	NS
Normalizing beliefs	−.05	−.05	.51	NS

($F = 24.03$, $p < .001$). Negative beliefs about paranoia and beliefs about paranoia as a survival strategy both made a significant contribution to the equation.

Predictors of distress associated with delusional ideation

In order to examine the factors that predicted distress associated with delusional ideation in general (as opposed to paranoia specifically), a multiple regression analysis was conducted using PDI distress as the dependent variable. The independent (or predictor) variables included in the analysis were paranoia scale total on step 1, and the beliefs about paranoia subscales on step 2. The results of the final multiple regression equation can be seen in Table 5.

The multiple R was 0.612 and significant ($F\,(5, 186) = 22.27$, $p < .001$). The adjusted R^2 was 0.36 indicating that a moderate amount of the variance was accounted for by these predictor variables. An examination of the tolerances of the individual variables found them to be acceptably high, indicating that colinearity was not a problem. On step 1, with paranoia scale total entered, the adjusted R^2 was 0.33 and the multiple R was 0.579 and significant. On the final step, when BAPS subscales were entered, the increment in R^2 of 0.04 was significant ($F = 2.95$, $p < .05$). Negative beliefs about paranoia were the only BAPS subscale to make a significant contribution to the equation.

Discussion

The results of this study suggest that four distinct subscales regarding beliefs about paranoia can be measured by the BAPS. Both positive and negative beliefs were identified; this is consistent with the S-REF model (Wells and Matthews, 1994) and a metacognitive approach to conceptualizing psychotic experience (Morrison, 2001; Morrison, Frame et al., 2003). All four of the subscales (negative beliefs, beliefs about paranoia as a survival strategy, general positive beliefs and normalizing beliefs) were associated with all measures of paranoia, dimensions

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of delusional ideation and trait anxiety, suggesting that these scales demonstrate predictive validity.

The finding that both negative and positive beliefs about paranoia were predictive of the experience of paranoia is also consistent with predictions of the S-REF model and metacognitive models of psychosis. It also supports the suggestion that paranoia may be employed as a deliberate strategy for managing interpersonal threat, similar to the use of worry for more general threats. The addition of metacognitive beliefs about paranoia led to an increase of 24% in the variance in paranoia explained, which is clearly a significant amount.

The finding that negative beliefs about paranoia predicted distress associated with delusional ideation is also consistent with the S-REF model and metacognitive models of psychosis. Again, there are notable similarities to the processes found in the metacognitive model of worry (Wells, 1995) and hallucinatory experiences (Morrison et al., 2002). Considered together, our results suggest that positive beliefs may be involved in the development of paranoid experiences for both service users and non-patients, and that it is the co-occurrence of positive and negative beliefs that determines whether someone becomes distressed. The emergence of negative beliefs (possibly as a result of a reduction in control of the experiences or negative social consequences) may, therefore, determine help seeking (and, ultimately, patient status).

This study has a number of methodological limitations. Clearly, there are differing definitions and usages of paranoia. In addition to those mentioned earlier, paranoia can be used colloquially in a similar way to worry (for example, "I'm paranoid that I'm going to fail my exam"). One difficulty with this study is the lack of a specified definition of paranoia; it is, therefore, possible that participants were interpreting the term paranoia in different ways. However, the fact that the subscales of the BAPS were associated with the PDI and the PS suggest that the participants were completing the scale with a valid understanding of paranoia. Similarly, the fact that participants completed the BAPS after filling in the PDI and PS would suggest that they had a similar (non-colloquial) definition in mind. However, a specified definition would be desirable in future versions of the questionnaire. In relation to clinical paranoia, or persecutory delusions, Freeman and Garety (2000) suggest a revised definition that specifies that the individual must believe that harm is occurring, or is going to occur, to him or her, and that the individual believes that the persecutor has the intention to cause harm; it is possible that a modification of this definition may be helpful in revisions of the BAPS.

Analogue research is commonly used to make inferences about psychological processes in clinical populations; however, the generalizability of our findings is clearly compromised by using a non-patient sample. The sample was also predominantly female, which will also limit the generalizability of our findings. The general positive beliefs and normalizing beliefs subscales only had four and three items respectively, which is far from ideal. Future development of the scale will attempt to improve this.

The clinical implications of this research should be viewed cautiously, since the population examined was a non-patient sample. However, it would seem reasonable to encourage clinicians to assess the nature of service user's positive and negative beliefs about paranoia. If negative beliefs appear to mediate the distress associated with paranoid ideation, then such beliefs could be regarded as suitable targets for intervention (as suggested by Morrison, Renton et al., 2003). It is also important to examine positive beliefs for a number of reasons. Our findings suggest that positive interpretations are involved in the development and/or maintenance of paranoia as a strategy for managing threat. People may adopt behavioural strategies for inducing paranoia (e.g. using certain substances) or may be reluctant to engage

in therapy, believing it to be too dangerous to consider becoming less paranoid. If paranoia serves a positive function for the person (whether as a survival strategy or simply by making life more interesting), then it is important to evaluate the need for this and, if appropriate, to provide an alternative way of achieving this.

Use of this scale with a clinical population may require careful consideration. Some may argue that paranoia is a stigmatizing or pathologizing word, and it is possible that this may cause offence to service users. However, it can also be argued that paranoia is a normalizing term in comparison to persecutory delusions. For example, a recent self-help group for people experiencing paranoia, based on the normalizing methods and philosophy of the hearing voices network, has started in the UK, and the name that they have chosen is the Paranoia Network. Whilst some may argue that use of the term paranoia suggests "you are making up what you fear", it is important to note that a common idiom is that "just because you're paranoid doesn't mean they're not out to get you". It is worth noting that preliminary feedback from our service users has been positive, but future studies with clinical populations should attempt to gather formal qualitative feedback from service users.

It is also interesting to consider the implications of paranoia being used as a strategy for managing interpersonal threat for mental health service delivery and the course of psychosis. For example, it is possible that interpersonal situations with powerful mental health professionals (such as an appointment with a consultant psychiatrist) would be likely to result in increased use of paranoia. Knight (2002) suggests that the loss of civil rights, combined with the genuine discrimination and persecution that can occur within the mental health system, mean that mental health services can induce paranoia. This would be compatible with the suggestion that patients may adopt behavioural strategies (or safety behaviours, such as not expressing emotions or saying very little) for managing such interactions, which are pathologized as negative symptoms (Morrison, Renton et al., 2003). It is also likely that, if early warning signs and perceptual changes are appraised as threatening and indicative of an impending relapse, then this perception of threat may lead to increased use of paranoia as a strategy, potentially fuelling a vicious circle of relapse, as suggested by Gumley, White and Power (1999).

Further research is clearly needed to examine the presence of these beliefs about paranoia in patients, and to determine the relationship of such beliefs to the development and maintenance of paranoid ideation and emotional and behavioural responses. It is hoped that the further development of this measure will facilitate research examining metacognitive processes involved in clinical and non-clinical paranoia. It would also be useful to examine the relationship of life experiences and childhood trauma to the development and maintenance of such beliefs.

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