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*Published in:*  
Clinical Psychology & Psychotherapy

*DOI:*  
[10.1002/cpp.2930](https://doi.org/10.1002/cpp.2930)

*Publication date:*  
2023

*Document Version*  
Publisher's PDF, also known as Version of record

[Link to publication in Tilburg University Research Portal](#)

*Citation for published version (APA):*  
Knapen, S., Swildens, W. E., Mensink, W., Hoogendoorn, A., Hutsebaut, J., & Beekman, A. T. F. (2023). The development and psychometric evaluation of the Questionnaire Epistemic Trust (QET): A self-report assessment of epistemic trust. *Clinical Psychology & Psychotherapy*. Advance online publication. <https://doi.org/10.1002/cpp.2930>

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## RESEARCH ARTICLE

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# The development and psychometric evaluation of the Questionnaire Epistemic Trust (QET): A self-report assessment of epistemic trust

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## Abstract

Epistemic trust (ET) refers to the predisposition to trust information as authentic, trustworthy and relevant to the self. Epistemic distrust – resulting from early adversity – may interfere with openness to social learning within the therapeutic encounter, reducing the ability to benefit from treatment. The self-report Questionnaire Epistemic Trust (QET) is a newly developed instrument that aims to assess ET. This study presents the first results on the psychometric properties of the QET in both a community and a clinical sample. Our findings indicate that the QET is composed of four meaningful subscales with good to excellent internal consistency. The QET shows relevant associations with related constructs like personality functioning, symptom distress and quality of life. QET scores clearly distinguish between a clinical and community sample and are associated with the quality of the therapeutic alliance. The QET provides a promising, brief and user-friendly instrument that could be used for a range of clinical and research purposes. Future studies with larger samples are needed to strengthen construct validity and to investigate the value of the QET to predict differential treatment responses or to study mechanisms of change.

## KEYWORDS

epistemic trust, personality functioning, psychometric evaluation, questionnaire, self-report

## 1 | INTRODUCTION

Epistemic trust (ET) refers to the developmental capacity to accept and trust information conveyed by another person as authentic, trustworthy, generalizable and relevant to the self (Fonagy & Allison, 2014; Fonagy et al., 2015, 2017a). ET is believed to arise from safe

attachment relationships and fostered by the capacity to reflect on mental states, i.e., mentalizing. While a healthy development of ET may underpin resilience as it enables an individual to accept and integrate relevant perspectives from others to overcome life challenges (Fonagy et al., 2017b), frequent adverse childhood experiences may dispose an individual to adopt a hypervigilant position towards information from others secluding a person from potentially helpful resources, resulting in high levels of Epistemic Mistrust (EM) (Campbell et al., 2021; Fonagy & Allison, 2014; Fonagy et al., 2015, 2017a, 2017b). EM and has been conceived of as a transdiagnostic risk factor for developing psychopathology (Fonagy et al., 2015; Luyten et al., 2020). Although EM has been formulated as an essentially transdiagnostic feature, a more intrinsic relationship

This study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the institutional medical ethic committee (number CWO -1911) and funded by Altrecht Mental Health Care. All participants of this study signed informed consent. The participants of this study did not give written consent for their data to be shared publicly outside of the Mental Health Institute where the data were generated. Derived data will be available conform APA policy to other researchers upon request. All authors had full access to the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. The authors have no conflicts of interest to report.

between EM and the development of personality disorders (PDs) was also assumed (Fonagy & Allison, 2014; Fonagy et al., 2015), most notably with borderline PD.

In a previous, conceptual paper, we formulated ET/EM as the final pathway through which aversive childhood experiences may affect treatment prognosis (Knapen et al., 2020). Indeed, many severely traumatized individuals suffer from interpersonal impairments that may be associated with dysfunctional relationships, including the therapeutic alliance. EM may interfere with a patient's openness to learn and to accept new perspectives within the therapeutic encounter, directly reducing a patient's ability to benefit from this relationship. Therefore, ET/EM may capture a specific personality-related feature closely associated with a patients' general tendency to trust information from others, thereby impacting the potential effects of psychotherapy. Assessment of this general disposition could enable to identify patients for whom engaging in a productive therapeutic relationship may be impaired, reducing their ability to benefit from 'regular' treatment that does not address this feature sufficiently.

Early efforts to assess ET/EM typically used experimental procedures to study how new information is processed and valued by toddlers (Corriveau et al., 2009; Egyed et al., 2013). A similar approach has also been described for adults (Schroder-Pfeifer et al., 2018). This research protocol uses provocative lab procedures to induce social stress in order to study ET/EM. Such an experimental approach is not feasibly used in clinical practice. Assessing ET/EM in clinical practice would benefit if a brief, user-friendly self-report instrument was available. While no such questionnaire was available at the start of the current study, recently the Epistemic Trust, Mistrust and Credulity Questionnaire (ETMCQ) was developed and tested in two community samples (Campbell et al., 2021). The ETMCQ is an 18-item self-report questionnaire with a three-factor structure, interpreted by the authors as Trust, Mistrust and Credulity. This factor structure was recently replicated in an Italian study (Liotti et al., 2023), however, also showing some relevant differences, according to the authors because of linguistic and cultural factors. A limitation of both studies is that they were conducted in community samples only, whereas the conceptual model of ET/EM has been developed mainly to address susceptibility to psychopathology in general, and to personality pathology in particular.

In the construction of our measure, we followed a different procedure that will be described in more detail in the [Method](#) section. Briefly summarized, we did not follow a theory-driven approach to generate items but a bottom-up expert-based approach focusing on defining the clinical features of ET/EM (Knapen et al., 2022). Finally, we chose to include a clinical sample of patients with severe PDs to study the clinical features and correlates of ET/EM in the patient groups for whom these concepts (especially EM) were formulated.

This study presents the preliminary results on the psychometric properties of the QET. We will describe the procedure that was followed to generate items and to reduce the initial set of 49 items to a clinically feasible, brief instrument including 24 items. In addition, we will present preliminary data on factor structure, reliability and

### Key Practitioner Message

- Brief and user-friendly measure of epistemic trust
- Assessing ET may give information about the level of personality functioning
- Assessing ET prior to treatment may improve treatment allocation
- Assessing ET prior to treatment can prevent long trajectories of failed treatments

construct validity, as obtained in both a community sample and a clinical sample consisting of patients with severe and complex PDs. Regarding the factor structure, we had no clear a priori hypothesis on the number of factors, although we assumed it reasonable to expect at least two factors related to a general disposition towards trust/mistrust and a specific expectancy regarding help in a professional context. Regarding discriminant validity, we will compare levels of ET/EM between the community and clinical sample, expecting clearly higher levels of EM in the clinical sample. Regarding construct validity, we will investigate associations between the QET and measures for severity of personality and general psychopathology, quality of working alliance and quality of life. These measures were based on the theoretical model underpinning the construct of ET and on our specific interest in ET/EM as a correlate of (problems in) the therapeutic relationship. More specifically, we expected substantial positive associations between ET on the one hand and adaptive personality functioning and quality of life, while we expected negative associations between ET and general psychopathology. Regarding the therapeutic alliance, we expected ET to be positively associated with a positive quality of the therapeutic alliance, based upon the assumption that ET underpins a positively experienced working alliance that may be beneficial for treatment outcomes.

## 2 | METHOD

### 2.1 | Participants and procedure

We recruited two samples between June 2020 and March 2022. The first sample was recruited at the AMBIT (Adaptive Mentalization Based Integrative Treatment) unit, an outpatient unit for patients with severe and complex PDs in a Dutch Mental Health Institution. All patients receiving treatment in the AMBIT unit are approached yearly by an institutional research team for collecting routine outcome data on their progress in treatment (de Beurs et al., 2011). The instruments used for the current study were integrated within this procedure. Hereto, patients gave informed consent to complete an extra online package of questionnaires, as detailed below. Four hundred and fifty-four patients of the AMBIT teams were informed about the study of whom 164 (36%) agreed to participate, 107 of them (65%) also completed all questionnaires. All patients receiving treatment at the

AMBIT unit were approached for participation. Not being able to read and understand Dutch sufficiently was the only exclusion criterion.

The second sample was recruited in the community. The researchers approached, with the assistance of students in clinical psychology, a convenience sample of individuals. Social media were used to spread the questionnaires that were administered as an online survey using the software Qualtrics (Qualtrics, 2019). One hundred and thirty individuals signed informed consent and were included.

## 2.2 | Measures

Data from the Questionnaire Epistemic Trust (QET), the Severity Indices of Personality Problems SIPP-SF and the Work Alliance Inventory (WAI) were collected in both the clinical and the community sample. The Health of the Nations Outcome Scales (HoNOS) and Manchester Quality of Life Short Assessment (MANSA) were gathered in the context of the yearly routine outcome monitoring for the clinical sample only.

## 2.3 | Questionnaire Epistemic Trust

The QET was designed for the purpose of this study to assess the main clinical features of ET. Construction of the questionnaire followed a bottom-up procedure using a Delphi procedure. The procedure that was used to agree upon the definition and clinical features of the concept of ET has been described in detail elsewhere (Knapen et al., 2022). Briefly summarized, an international group of experts was approached to define the construct of ET/EM. After agreement upon the definition and clinical features (Knapen et al., 2022), three authors of this paper (SK, JH and AB) generated items reflecting the different elements of the definition. These items were presented for feedback to the same group of respondents, again following a Delphi procedure. Experts were asked to indicate to what degree they agreed that each item was valuable for assessing ET/EM. If disagreeing, experts were stimulated to provide feedback in terms of additions and/or a suggested rephrasing of the proposed items. In addition, we also stimulated experts to present new items themselves in order to fully capture the concepts. Items were presented in subsequent feedback rounds, until consensus was reached for all items. This procedure resulted in an initial version of the QET including 49 items. As the original items were formulated in English, translation into Dutch was done through a forward backward translation method (Wild et al., 2005). In addition, we presented the items to a panel of experts by experience and pilot tested the questionnaire with patients to check for comprehensibility and readability of items.

The original version of the QET thus consisted of 49 items (Knapen et al., 2020). Items concerned statements about trust and mistrust, and were to be rated on a 5-point Likert scale varying from 1 (totally agree) to 5 (totally disagree). For example, "I am easily suspicious that information from most people cannot be trusted". After reverse scoring of negatively formulated statements higher scores

imply higher ET (theoretical range of total score for all items lies between 49 and 245). However, as one of the primary aims was to develop a brief and user-friendly instrument, we reduced the number of items (see further), to reach a final version of 24 items (range 24–120), which was used for all further analyses to establish psychometric properties.

## 2.4 | Severity Indices of Personality Problems – Short Form (SIPP-SF)

The SIPP-SF (Verheul et al., 2008), a short version of the SIPP-118, was used to assess adaptive personality functioning. The SIPP-SF is a 60-item self-report questionnaire that focuses on five core domains of adaptive personality functioning: Self-Control, Identity Integration, Relational Capacities, Responsibility and Social Concordance. All items are answered on a 4-point Likert scale. Higher scores imply better adaptive functioning. The SIPP-SF has shown good reliability and validity in previous studies (Weekers et al., 2019). In the current study, the Cronbach's  $\alpha$  of the five subscales in the clinical and the community sample ranged from 0.89 to 0.94.

## 2.5 | Working Alliance Inventory 12 item Short form (WAI-12)

The Dutch version of the WAI-12 (Hatcher & Gillaspay, 2006; Stinckens et al., 2009) was used in the yearly routine outcome monitoring of the participating teams to measure the quality of the therapeutic alliance. The WAI-12 consists of three subscales referring to a contact/bond, task and goal component. The WAI-12 can be used from patient and therapist perspective; in this study, we used the patient version. Patients rate items on a 5-point Likert scale anchored at each end with 'rarely or never' (Fonagy & Allison, 2014) and 'always' (Campbell et al., 2021). A higher score indicates a better therapeutic alliance. The Dutch version of the WAI-12 and the subscales have shown good reliability ( $\alpha$ 's ranging from 0.70 to 0.80) and validity (Stinckens et al., 2009). In the current study  $\alpha$  for the total score was 0.92 (clinical sample).

## 2.6 | HoNOS

The Dutch version of the Health of the Nation Outcome Scales (HoNOS) (Mulder et al., 2004) was used to assess the general level of psychopathology. The HoNOS is a frequently used instrument in patients with severe mental illness and was included in the yearly routine outcome measurement of the institution. It is a 12-item clinician-rated measure developed to assess health and social care outcomes in specialist mental health care services for adults (Wing et al., 1998). Item scores vary from 0 = no impairments to 4 = very severe impairments. Higher total scores on the HoNOS are indicative for more limitations in psychosocial functioning and worse (mental) health. The

psychometric properties of the HoNOS, including the Dutch version, are tested as sufficient. The internal consistency for the HoNOS varies in international studies from  $\alpha = 0.59$  to  $0.89$  (Eagar et al., 2005; Pirkis et al., 2005) indicating moderate to high internal consistency and low item redundancy. Internal consistency of the Dutch version was good with  $\alpha = 0.70$  (Mulder et al., 2004) and also in our clinical sample, internal consistency was good ( $\alpha = 0.74$ ).

## 2.7 | MANSА

The Manchester Short Assessment of quality of life (Dutch version) (Priebe et al., 1998) is a self-report measure to assess quality of life in people with mental health problems. Twelve items rating several life domains (for instance mental health, daily activities, family relations) are rated on a seven-point scale ranging from 1 (very much dissatisfied) to 7 (very much satisfied). Summary scores range from 12 to 84, with higher scores indicating better quality of life. Previous studies of the MANSА showed psychometric properties, including a moderate to good internal consistency ( $\alpha = 0.74$ ) (Priebe et al., 1998). In our current clinical sample we found  $\alpha = 0.82$ .

## 2.8 | Additional information

Additional descriptive data were collected. For the patient group, we used the standard information gathered as part of the routine outcome monitoring including sociodemographic information (gender, age, education level) and information on living and work situation. For the community sample, only sociodemographic information was collected.

## 2.9 | Sample size

Power calculation for the factor analysis was based on the recommendation of Anthoine et al. (Anthoine et al., 2014; Mundfrom et al., 2005) for a subject-to-item ratio of  $>2$  to maximum 5. For reasons of feasibility, a minimum of 100 subjects per group was chosen (subject-to-item ratio of 2).

## 2.10 | Data analysis

Since we followed a bottom-up, less theory-driven, but expert based procedure, focusing on the clinical features of ET and EM, we had no a priori hypothesis on factor structure and therefore conducted a principal component analysis (PCA) to determine the number and type of domains in the QET in the clinical sample. The requirements for PCA were tested using the Kaiser–Meyer–Olkin measure of Sampling Adequacy and Bartlett's test of sphericity. Because we expected that the underlying components would be related, an oblique rotation was chosen for the PCA. The number of factors was determined by using

the rule with eigenvalue  $>1$  (Kaiser, 1960) and finally decided by evaluation of the scree plot and item loadings in combination with clinical expertise.

As our primary aim was to design a brief and easy-to-use instrument that may be useful for clinical and research purposes, we first aimed to further reduce the number of items. Therefore, after first establishing the factor structure for the initial 49-item version, we reduced the total number of items by selecting six items per factor based upon the analyses done in the clinical sample. To be included, items first had to have a factor loading of at least  $>0.40$  on one factor (Peterson, 2000). Second, further selection was based on Cronbach's  $\alpha$  if item deleted procedure (De Vet et al., 2011). Finally, the resulting items were independently assessed on content by two authors (SK and JH). Ultimately, four items were removed based on this content review. To be fully transparent about the procedure we followed, we report in detail in the Addendum which items were removed in this last step and why they were removed.

Following the PCA in the clinical sample, we conducted a confirmatory factor analysis (CFA) in the community sample to validate the factor structure by evaluating fit indices and to assess measurement invariance across the clinical and community sample. CFA was applied to the data of the community sample in the following way: a four-factor model was fitted to the four groups of six items, assuming uncorrelated errors in the first model and allowing correlated error between the items within a factor in the second model. The following fit indices were calculated: the root mean square error of approximation (RMSEA), the comparative fit index (CFI) and the Standardized Root Mean Square Residual (SRMR). We will interpret that RMSEA and SRMR values smaller than 0.08, and CFI and TLI values larger than 0.9 indicate an acceptable fit, as suggested by Hu and Bentler (1999). Next to the model that assumes uncorrelated residuals, a model with correlated residual within factors was estimated, in order to evaluate the improved model fit. Measurement invariance was evaluated by use of multiple group structural equation modelling and the use of a likelihood ratio test comparing the model without any restrictions to the model that restricts the factor loadings to be equal across the two groups: not rejecting the invariant loadings model suggests measurement invariance.

The reliability of the 24-item QET was determined by computing internal consistency (Cronbach's Alpha).

Subsequently, to find evidence for construct validity, we determined the convergent and discriminant validity using the QET and the SIPP-SF, the WAI-12 and the HoNOS and the MANSА. We analysed the associations between the QET and these instruments by Pearson's correlation tests for continuous variables. In additional regression analyses, the relations between measures were extra controlled for differences between patients and community sample in age and educational level (low versus moderate/high).

Finally, as an extra analysis of the construct validity, we studied if patients had lower levels of ET measured with the QET and if patients also had worse functioning measured with the SIPP-SF compared with the community sample. Scorings of both groups on QET and on SIPP-SF were compared with independent student's *t*-tests. Also, these

tests were supplemented with additional regression analyses controlling for differences in age and educational level between the patient group and the community sample.

### 3 | RESULTS

#### 3.1 | Sample characteristics

Table 1 presents the sociodemographic and clinical characteristics of both samples. The patient group was on average younger than the

community sample: 41.4 years (SD = 11.9) versus 45.4 years (SD = 14.7);  $p < 0.001$ ; and had a lower level of education (20.4% versus 5.4% with a low education level;  $p < 0.001$ ) (OECD, 2017). For the patient group, extra information was available. Most of the patients did not have a partner or work, were unmarried and living independently, while one-third received supported living services. The patients' average total HoNOS-score is 11.88 (SD = 5.74) comparable with scores for SMI found by Mulder et al. in the Netherlands (Mulder et al., 2004). The HoNOS score of the AMBIT patients participating in the study did not differ much from the mean score in the total population of AMBIT patients during the inclusion period. The total mean

**TABLE 1** Participants' characteristics of the clinical and the community sample.

Characteristics	Clinical sample <i>n</i> = 107	Community sample <i>n</i> = 130	Test results
Gender, % ( <i>n</i> )			
– Male	19.6% (21)	24.6% (32)	$\chi^2 = 0.841$ , $p = 0.359$
– Female	80.4% (86)	75.4% (98)	
Age, mean (SD)	41.39 (11.92)	45.39 (14.71)	$t(235) = 2.27$ , $p = 0.024$
Level of education <sup>2</sup> , % ( <i>n</i> )			
– Low	20.4% (21)	5.4% (7)	$\chi^2 = 62.34$ , $p < 0.001$
– Medium	39.8% (41)	90.0% (117)	
– High	39.8% (41)	4.6% (6)	
Dutch native, % ( <i>n</i> )			
– Yes	92.4% (97)	91.5% (119)	$\chi^2 = 0.06$ $p = 0.814$
– No	7.6% (8)	8.5% (11)	
Partner relation, % ( <i>n</i> )			
– Yes	35.5 (38)		
– No	64.5 (69)		
Marital state, % ( <i>n</i> )			
– Not married	71.9% (77)		
– Married/cohabitation contract	15.0% (16)		
– Divorced/widow (er)	13.1% (14)		
Paid work, % ( <i>n</i> )			
– No	85.8% (91)		
– Yes	14.2% (15)		
Supported living, % ( <i>n</i> )			
– Yes	32.4% (33)		
– No	67.6% (69)		
Living situation, % ( <i>n</i> )			
– Independent alone	55.1% (59)		
– Independent with others	41.1% (44)		
– Mental health institution	2.8% (3)		
– Other	0.9% (1)		
General functioning, HoNOS total, mean (SD)	11.88 (5.74)		
Quality of life, MANSA total, mean (SD)	49.20 (12.80)		

Missings: level of education: 4; Dutch native yes/no: 2; paid work: 1; supported living: 5; HoNOS: 3; MANSA: 5.  
 $p =$  two sided.

OECD, European Union, UNESCO Institute for Statistics. ISCED Operational Manual: Guidelines for Classifying National Education Programmes and Related Qualifications. OECD Publishing; 2015. Low = ISCED level 0–2; medium = ISCED level 3–5; high = ISCED level 6–8.

score for quality of life was 49.20 ( $SD = 12.80$ ), which is low compared with median scores of 56–58 ( $SD = 9.34$ ) for patients with SMI before and after entering flexible assertive community treatment teams in the Netherlands (Nugter et al., 2016).

### 3.2 | Factor structure

The factor structure of the initial 49-item version of the QET by PCA performed in the clinical sample resulted in a satisfactory KMO value of 0.76 and Bartlett's sphericity value of  $<0.001$  indicating factorability of the items (details are presented in the addendum Table A1). The scree plot used to determine the number of factors to keep in the component analyses suggested a four-factor solution (Cattell, 1966). The original 49 factors (Addendum Tables 2 and 3 for clinical and community sample) were rotated according to the Oblimin procedure. The total percentage of variance explained by the four factors was 50.3%.

Based upon the content of the items loading on each of the four factors, we interpreted factor 1 as Hypervigilance: the tendency to be overly vigilant with regard to the intentions of the other and thus the reliability of the knowledge and information of the other; factor 2 as Curiosity/openness: the tendency to be genuinely curious about the opinions of others; factor 3 as Expectation of help: the experience or expectation that one can benefit from the knowledge/information/advice of others and finally factor 4 as Openness to help: the willingness to be open to the knowledge of the other in a counselling relationship.

Subsequently, we followed the procedures to further shorten the questionnaire (reliability analyses and independent scrutiny of content by the authors) to a 24-item version of the QET (presented in Table 2). The considerations for the item selection are included in the addendum (with Tables A2 and A3).

Finally, we carried out a CFA to assess the structural validity and measurement invariance of the 24-item QET in the community sample. The results of the CFA (Table 3) indicated an acceptable model fit ( $RMSEA = 0.095$ ,  $CFI = 0.82$  and  $SRMR = 0.103$  for the standard model and  $RMSEA = 0.077$ ,  $CFI = 0.90$  and  $SRMR = 0.076$  for a model with correlated residuals). Measurement invariance across the clinical and the community sample was supported: chi-square (Mulder et al., 2004) = 26.16,  $p$ -value = 0.1606, not rejecting the invariant loadings model.

### 3.3 | Internal consistency

The Cronbach's alpha for the total 24-item scale was excellent with  $\alpha = 0.91$  in both the clinical and community sample and also good to excellent for all four domains (see Table 4 clinical sample and online Table A4 community sample).

Correlations between subscales for the clinical sample varied between  $r = 0.04$  and  $r = 0.48$ . This means that, although the subscales are related, their maximum shared variance is less than 25%.

Correlations for the community sample varied between 0.26 and 0.66 with a maximum shared variance of 33% (shared variance  $A = 0.66^2 = 0.44$  Table A4).

### 3.4 | Construct validity

The overall pattern of correlations in the clinical sample showed significant associations between the QET and a range of related constructs (Table 5). More precisely, in the clinical sample, the QET had moderate to high correlations with the WAI ( $r = 0.501$ ,  $p < 0.01$ ) and the SIPP-SF scales (ranging from  $r = 0.473$ ,  $p < 0.01$  for self-control to  $r = 0.661$ ,  $p < 0.01$  for identity integration) and significant but relatively lower correlations were found with the HoNOS ( $r = -0.279$ ,  $p < 0.05$ ) and the MANSA ( $r = 0.272$ ,  $p < 0.01$ ). For the community sample, the correlations between the total QET score and the SIPP-SF subscales were lower but also significant and varied from  $r = 0.266$  ( $p < 0.01$ ) for Self-control and  $r = 0.436$  ( $p < 0.01$ ) for Identity integration (addendum Table A5).

Table 6 shows mean scores of the QET total score and the subscale scores for both the clinical and community sample, together with test results from comparing these means. The scores in the clinical sample varied between 18.85 ( $SD = 5.21$ ) for Hypervigilance, 21.44 ( $SD = 5.63$ ) for Openness to help, 22.56 ( $SD = 4.47$ ) for Curiosity/openness and 23.72 ( $SD = 3.31$ ) for the subscale Expectation of help. Both the total and all subscale scores were, as presented in Table 6, statistically significantly lower in the clinical sample compared with the community sample showing reduced ET. The difference is most pronounced for Hypervigilance: 18.85  $SD = 5.21$  for the clinical sample and 24.65 ( $SD = 3.39$ ) for the community sample ( $t[235] = -10.28$ ;  $p < 0.001$ ). These results were in line with the SIPP-SF scores that showed more personality impairments in the patient as compared with the community sample.

## 4 | DISCUSSION

This study aimed to investigate the psychometric properties of the newly designed Questionnaire Epidemic Trust. We started with a 49-item version, constructed through a Delphi procedure including experts in the field. Building on a factor analysis, demonstrating four factors, we reduced the number of items to 24, in order to achieve a brief and easy-to-use instrument that may be useful for clinical and research purposes. The current study presents the first data from both a clinical and a community sample. Initial PCA revealed a four-factor structure in a clinical sample. The results of the CFA done in a community sample indicated acceptable model fit. Our findings further showed good to excellent internal consistency for the total scale and for each of the four subscales. All scales were associated in a clinically meaningful way with a range of conceptually related variables, like severity of personality problems and level of general psychopathology, supporting construct validity of the instrument. Moreover, all scales were also associated with the quality of the working alliance,

**TABLE 2** Principal component analysis result; rotation Oblimin with Kaiser normalization, 25 iterations. Selection of the 24 definite factors in order of size. Clinical sample ( $n = 107$ ).

	Factor 1 Hyper-vigilance	Factor 2 Curiosity/Openness	Factor 3 Expectation of help	Factor 4 Openness to help
I easily doubt other people's intentions when they give me advice. (2 R)	0.762			
I feel cautious in accepting information from others. (39 R)	0.746			
I am easily suspicious that information from most people cannot be trusted. (1 R)	0.711			
I tend to be cautious when people try to teach me something. (3 R)	0.696			
I have to be cautious to protect myself from misleading information. (7 R)	0.658			
I am easily suspicious about information from my therapist. (23 R)	0.662			
I am generally curious to tips or advice from my therapist. (44)		0.806		
I am interested in what my therapist can teach me. (45)		0.765		
I feel open to accept information from my therapist. (43)		0.697		
I feel open to accepting information from others. (14)		0.650		
I ask questions when I do not understand something. (19)		0.612		
I am generally curious about things other people know about. (15)		0.566		
My therapist helps me consider ideas that would never have occurred to me on my own. (32)			0.733	
Advice or tips from my therapist usually do not work for me. (22)			0.713	
I generally think that what my therapist is communicating to me is useless for me. (25)			0.712	
My therapist provides me with valuable information and tips. (36)			0.709	
I expect that the advice from this therapist will help me. (28)			0.707	
Tips or advice that my therapist gives me might help for others, but not for me. (35 R)			0.680	
I quickly doubt information from my therapist. (26 R)				0.823
I am afraid to accept what my therapist advises me to do. (40 R)				0.801
I feel cautious about accepting information from my therapist. (39 R)				0.762
I am highly selective in what information from my therapist I can trust. (48 R)				0.761
I feel cautious when my therapist tries to teach me something. (42 R)				0.755
In treatment, I tend to be cautious to protect myself from misleading information. (24 R)				0.718

R = reverse for scoring. Between the brackets the original item number of the first 49 QET version.

and they significantly distinguished a clinical sample from a community sample. All these findings are supportive of the QET. We will deepen the discussion by highlighting some findings.

Items were generated bottom-up by experts and were not formulated according to a previously designed theoretical model of potential subcomponents of the construct of ET. We, therefore, did

not have a priori hypotheses on the number of factors. However, as we intended to capture the more trait-like disposition to (dis)trust others in general (for the purpose of social learning), as well as the more specific state-like tendency to (mis)trust a potential provider of professional help, we expected to find at least these two clusters of items. Our data suggested a four-factor structure, which we



**TABLE 3** Fit indices from confirmatory factor analyses (CFA) in the community sample.

Model	CFI	TLI	SRMR	RMSEA (95% CI)
4 factor, 24 items	0.82	0.80	0.103	0.095 (0.084, 0.106)
4 factor, 24 items, CRs	0.90	0.87	0.076	0.077 (0.064, 0.090)

Abbreviations: CFI, comparative fit index; CRs, correlated residuals; RMSEA, Root Mean Square Error of Approximation; SRMR, Standardized Root Mean Square Residual; TLI, Tucker-Lewis Index.

**TABLE 4** Reliability, correlations between scales and average scores (SD) of the QET scales for the clinical sample ( $n = 107$ ).

	Hypervigilance	Curiosity/openness	Expectation of help	Openness to help
Hypervigilance	(0.88)	0.311**	0.037	0.484**
Expectation of help		(0.80)	0.397**	0.419**
Curiosity/openness			(.87)	0.453**
Openness to help				(.90)
QET, subscales and total score	18.85 (SD = 5.21)	23.72 (SD = 3.31)	22.56 (SD = 4.47)	21.44 (SD = 5.63)

NB: Reliability scores measured in the community sample were comparable (available in addendum, Table A4).

\*\* $p < 0.01$  Reliability of scales (Cronbach's alpha) is shown between the brackets.

interpreted as 1. Hypervigilance, 2. Curiosity/openness, 3. Expectation of help and 4. Openness to help. Interestingly, and in line with our expectations, factors 1 and 2 indeed seem to reflect a more general tendency to experience trust in *any* relationship. On the other hand, factors 3 and 4 seem to be more related to trust in treatment providers, like therapy relationships, reflected in the expectation of help respectively the openness to help. The factors were correlated, but not very strongly, suggesting that trusting professional treatment providers may be different from trusting others in general. These findings may resonate with the observation that some patients find it more difficult to trust their therapist, being an authoritative person, as compared with their peer group members or vice versa (Sokol & Fisher, 2016). Furthermore, the differences between the four factors seem to highlight an additional aspect of the concept of ET. In the literature, ET is described as trust that the other person has information to offer which is relevant to the self *and* trust in the good intentions of the other to offer information or help (Fonagy & Allison, 2014; Fonagy et al., 2015, 2017b). The 'trust the source' aspect of ET seems to be especially reflected in the 'Hypervigilant' and 'Expectancy of help' factors (factors 1 and 3). At item level, factor 1 (Hypervigilance) mostly addresses the *reliability* of the source. Sample items are: "I am easily suspicious that information from most people cannot be trusted" and "I easily doubt people's intentions when they give me advice". Factor 3 on the other hand, which we interpreted as 'Expectation of help', seems to capture more the aspect of 'relevance to the self' in the theoretical concept of ET. Items focus more on openness to information from others and are therefore more connected with accepting information from others as relevant to the self: "I am generally curious to tips or advice from my therapist" or "I am interested in what my therapist can teach me". Interestingly, both factors () showed the highest factor loadings and explained most of the variance (40%), which may

indicate that hypervigilance and expectation of help reflect the core of the concept of ET.

To the best of our knowledge, only one other instrument has been designed to assess ET, the ETMCQ, which was not yet available when we started data collection. Campbell and colleagues (Campbell et al., 2021) found a three-factor structure – interpreted as Trust, Mistrust, and Credulity – in line with their a priori theoretical model. Interestingly and despite a seemingly different factor structure, there also seem to be similarities in the factor structure between the QET and the ETMCQ. Indeed, whereas our factors do not directly seem to refer to the three 'epistemic dispositions' of 'Trust', 'Mistrust', and 'Credulity' from the theory, we think that there is strong conceptual overlap. It seems that our factors 1 and 3, referring to Hypervigilance and Expectation of help, may be most related to the Trust and Mistrust factors in the Campbell study. Indeed, hypervigilance may be conceptually related to a general tendency to mistrust, while the general tendency to expect help may be related to the concept of Trust. Future studies could investigate to what degree our first two factors indeed overlap conceptually with both factors from the ETMCQ. However, Campbell and colleagues also found the factor of credulity in their instrument. They define credulity as a lack of vigilance and discrimination resulting in vulnerability to misinformation and the potential risk of exploitation. This epistemic stance may reflect a certain naiveté, which may be related, to some degree, to our factors of 'openness to help' and 'curiosity', however in the extreme variants of these dimensions. One could imagine that an extreme position of openness to help or extreme levels of curiosity without vigilance may reflect the sort of epistemic credulity that Campbell and colleagues found in their study. This questions the fact to what degree extreme scores on these two factors may still represent 'adaptiveness' or may reflect naiveté. Further studies should clarify this.

**TABLE 5** Pearson correlation between the scales of the QET and the scales of the SIPP-SF, HoNOS and MANSA (clinical sample,  $n = 107$ ).

	QET	Hypervigilance	Curiosity/openness	Expectation of help	Openness to help
WAI	0.501**	-0.017	0.382**	0.723**	0.406**
HoNOS	-0.279*	-0.242*	-0.126	-0.152	-0.249*
MANSA	0.272**	0.222*	0.062	0.250*	0.211*
SIPP-SF self-control	0.473**	0.504**	0.261**	0.283**	0.361**
SIPP-SF identity integration	0.662**	0.618**	0.418**	0.446**	0.524**
SIPP-SF relational capacities	0.658**	0.622**	0.426**	0.410**	0.532**
SIPP-SF social concordance	0.450**	0.453**	0.317**	0.258**	0.338**
SIPP-SF responsibility	0.494**	0.445**	0.275**	0.344**	0.421**

Cronbach's Alpha: WAI 0.925; HoNOS 0.744; MANSA 0.828; SIPP-SF 0.946; SIPP-SF self-control 0.894; SIPP-SF identity integration 0.961; SIPP-SF relational capacities 0.853; SIPP-SF social concordance 0.875; SIPP-SF responsibility 0.867.

\* $p < 0.05$ , and \*\* $p < 0.01$ . Because of occasional missing values, sample sizes range from  $n = 100$  to  $n = 104$  for correlations.

**TABLE 6** Mean scores (SD) of the QET and SIPP-SF's for the clinical sample and the community sample and their differences.

	Patients $n = 107$ M (SD)	Community $n = 130$ M (SD)	Difference			DF	$p$	Cohen's $d$	
			$M^a$	$t$	95% CI			$d$	95% CI
QET <sup>b</sup>	86.59 (13.46)	99.73 (10.47)	-13.13	-8.44	(-16.20, -10.07)	235	<0.001	-1.10	(-1.38, -0.83)
Hypervigilance <sup>b</sup>	18.85 (5.21)	24.65 (3.39)	-5.79	-10.29	(-6.90, -4.68)	235	<0.001	-1.34	(-1.63, -1.06)
Curiosity/openness <sup>b</sup>	23.72 (3.31)	25.32 (3.48)	-1.59	-3.58	(-2.47, -0.72)	235	<0.001	-0.47	(-0.73, -0.21)
Experience/ expectation of help <sup>b</sup>	22.56 (4.47)	24.43 (3.19)	-1.87	-3.74	(-2.85, -0.89)	235	<0.001	-0.89	(-0.75, -0.23)
Openness to help <sup>b</sup>	21.44 (5.63)	25.32 (3.16)	-3.87	-6.41	(-5.07, -2.68)	235	<0.001	-0.84	(-1.10, -0.57)
	<b>N = 103</b>	<b>N = 80</b>							
SIPP-SF <sup>c</sup>	159.23 (28.67)	214.60 (16.30)	-55.36	-15.43	(-62.44, -48.28)	181	<0.001	-2.30	(-2.67, -1.92)
Self-control <sup>c</sup>	33.88 (8.38)	44.23 (4.02)	-10.35	-10.17	(-12.36, -8.34)	181	<0.001	-1.51	(-1.85, -1.18)
Identity integration <sup>c</sup>	25.04 (8.57)	43.30 (5.05)	-18.25	-16.89	(-20.38, -16.12)	181	<0.001	-2.51	(-2.91, -2.12)
Responsibility <sup>c</sup>	36.25 (7.11)	43.85 (3.34)	-7.59	-8.82	(-9.30, -5.88)	181	<0.001	-1.31	(-1.63, -0.99)
Relational capacities/skills <sup>c</sup>	27.42 (7.37)	40.95 (6.02)	-13.52	-13.66	(-15.53, -11.52)	181	<0.001	-1.98	(-2.33, -1.62)
Social concordance <sup>c</sup>	36.63 (7.59)	42.26 (4.26)	-5.63	-5.94	(-7.50, -3.76)	181	<0.001	-0.88	(-1.19, -0.58)

<sup>a</sup>A negative value means the clinical sample has worse mean score than the community sample on the QET and the SIPP-SF.

<sup>b</sup>Differences between clinical and community sample stay the same for the QET and the subscales Hypervigilance, experience/expectation of help, Openness to help, and after control for differences in age and education level (low/moderate versus high). The difference between groups on the subscale Curiosity/openness, is after control for education level age no longer significant (figures in addendum Table A6).

<sup>c</sup>Differences between patients and community sample for the SIPP-SF and subdomains stayed significant after control for the difference in age and education between groups (figures in addendum Table A6).

Regarding the construct validity of the QET, our findings showed moderate to high associations between the QET and the subscales of the SIPP-SF. Interestingly, the strongest correlations were found for the SIPP-SF subscales Relational Capacities and Identity Integration. Both have been conceptualized as core components of PDs within the Alternative Model for PDs (Oldham, 2015). This may confirm the inherent association between EM and PDs. Mistrust in others results/ in problems in interpersonal functioning, which may lead to negative beliefs about oneself through negative experiences with others. Also, being rigid and not open to social learning makes it more difficult to navigate the social world and, in that way, again leads to negative

experiences in self-functioning, which further deepen negative beliefs about the self. Identity is at the core of personality functioning, and both are strong indicators of the severity of personality pathology (Hopwood et al., 2011). Severity is until now the strongest predictor of outcome in the treatment of PDs (Skodol et al., 2011). Associations between the QET and the HoNOS and the MANSA were moderate. Both HoNOS and MANSA reflect severity of malfunctioning and further underpin the relationship between ET and severity of pathology. Since they do not specifically measure personality or relational functioning, associations are lower than with the SIPP-SF. In their study, Campbell and colleagues found that mistrust and credulity scores

were associated with higher scores on the global psychopathology severity index, which is comparable with our results on the HoNOS and the MANSA (Campbell et al., 2021).

Given our interest in designing an instrument that may help to predict treatment response because of interference with openness to a professional treatment relationship, we also included a measure of the working alliance. As expected, we found moderate to high correlations between the QET and the WAI. The QET measures the tendency to be open to the knowledge of others in a counselling or therapeutic relationship and the degree to which the other is trusted in expertise and expected to be helpful, which are all important contributors to the therapeutic relationship (Horvath, 2005). However, the actual alliance may not only be determined by this pre-disposition but also depends on specific patient-therapist dyad related factors, explaining only partial overlap. Indeed, sensitive therapists may overcome this epistemic disposition and trigger momentaneous experiences of ET within a dispositional mistrustful person and build a better alliance. Therefore, both constructs should be distinguished: the working alliance measures the alliance within a concrete therapeutic relationship, whereas ET may have the potential to predict alliance in a future therapeutic relationship. As the working alliance is one of the most investigated common factors related to success in psychotherapy and given the vast evidence for the predictive value of the therapeutic alliance on outcome (Falkenstrom et al., 2014; Fluckiger et al., 2018; Horvath & Symonds, 1991; Sauer et al., 2010), this may further underpin the assumption that the QET may have the potential value to predict outcome.

Finally, the QET was found to be significantly sensitive in measuring differences between the community and a clinical sample. These findings suggest that the QET may be clinically applicable to distinguish between more healthy and pathological personality functioning.

#### 4.1 | Strengths and limitations

A major limitation of our study is the sample size. Further testing in different and especially larger samples is warranted to confirm the structure and other psychometric properties of the QET. Another limitation is the lack of validation instruments that are conceptually closely related to our measure. Unfortunately, the ETMCQ was not yet available when we initiated this study. We believe that future studies should in addition also include aspects like general interpersonal trust (OECD, 2017) or suspiciousness to study conceptual overlap but also discriminant validity of both ET measures.

We also believe that our study has some notable strengths. This study not only presents the first data on an ET measure in a clinical sample, but it also addresses this issue in a very specific, hard-to-reach sample of patients suffering from very severe PDs – a large sample is virtually impossible to achieve in this group of patients. This sample consists of persons who are eminently known for their low ET. Also, despite the smaller sample size, we want to highlight that we found similar factor structures in both clinical and community samples and that all investigated associations followed the a priori hypotheses.

#### 4.2 | Clinical use and future research

The QET was designed as an easy-to-use instrument to assess ET in a range of community and clinical samples, including the hard-to-reach samples for which the construct has been used most often. While further research is still needed, we believe that the QET may have clinical utility in addition to existing instruments. Compared with most personality measures, it seems to capture these aspects of personality that relate closely to the disposition of patients to open up to their therapy/therapists and may therefore be more strongly predictive of the potential alliance problems that may occur. Compared with the instruments designed for assessing working alliance, the QET may enable to predict potential alliance problems prior to the establishment of a therapeutic alliance. A poor score on the QET may therefore indicate that very sensitive and authentic action must be taken within future therapeutic relationships and that it may be better to assign to treatment programs in which reducing EM (and credulity) is the main starting point of the treatment. Future research on the predictive value of the QET will be needed to establish ET as a *psychomarker* for outcome. Additionally, providing an empirical measure of ET opens ways for new research on the until now largely theoretical concept of ET. In a future study we intend to generate empirical support for the theoretical assumptions about ET and childhood adversity, attachment, mentalizing, and personality pathology.

### 5 | CONCLUSION

These preliminary data on the QET suggest that it is a promising, brief and user-friendly instrument to measure ET in real-world clinical situations. Further studies are needed in larger samples and in different countries and cultures to validate and test the predictive value of the QET on treatment outcome.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

**How to cite this article:** Knapen, S., Swildens, W. E., Mensink, W., Hoogendoorn, A., Hutsebaut, J., & Beekman, A. T. F. (2023). The development and psychometric evaluation of the Questionnaire Epistemic Trust (QET): A self-report assessment of epistemic trust. *Clinical Psychology & Psychotherapy*, 1–12. <https://doi.org/10.1002/cpp.2930>