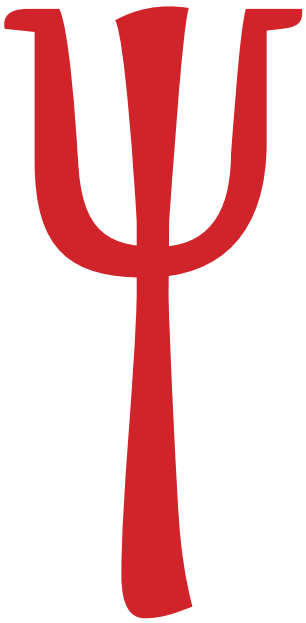

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Depressive indecisiveness

Psychology of children's drawings

Identifying the individual risk profile

Volume 68/number 1/March 2013
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Editor's address

Professor René van Hezewijk
Faculty of Psychology, Open University of the Netherlands, PO Box 2960, 6401 DL Heerlen, the Netherlands
tel + 31 45 576 23 99
All correspondence by e-mail: rene.vanhezewijk@ou.nl

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Depressive indecisiveness

Indecisiveness is a diagnostic criterion of major depressive episode according to the DSM-IV-TR. However, while research has shown that indecisiveness is associated with obsessive-compulsive symptomatology, convincing evidence for an association with depression is lacking. In four studies, the presumed association between depression and indecisiveness was tested. Although there was a correlation between self-reported indecisiveness and depressive symptoms, this association was not specific. That is, increased indecisiveness scores were observed in patients with various psychopathological complaints. Furthermore, behavioural manifestations of indecisiveness were not correlated with depressive symptoms. The findings cast doubt on the usefulness of indecisiveness as a criterion of depression.

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Authors: Eric Rassin* and Colin van der Heiden**

*Erasmus University Rotterdam, the Netherlands, **PsyQ, Rotterdam, the Netherlands

Correspondence to
Eric Rassin, Faculty of Social Sciences (Institute of Psychology), Erasmus University Rotterdam, PO Box 1738, 3000 DR Rotterdam, the Netherlands, e-mail: rassin@fsw.eur.nl

People are faced with decisions on a daily basis. Decisions are needed with respect to relatively trivial issues (e.g., which clothes to wear), but sometimes also regarding more crucial topics (e.g., whether or not to have children). From the literature on career choices, it is clear that some people have more difficulties with choosing than others (see Germeijs & De Boeck, 2002, 2003). Individuals who have such difficulties in various situations can be said to display (trait) indecisiveness. Several manifestations of the phenomenon have been identified. For example, Germeijs and De Boeck (2002) distinguish the following 11 descriptors of indecisiveness: 1) Deciding takes a long time, 2) deciding is perceived as difficult, 3) not knowing how to decide, 4) feeling uncertain during deciding, 5) delaying decisions, 6) avoiding decisions, 7) leaving decisions to others, 8) changing decisions, 9) worrying about decisions made, 10) regretting decisions made, and 11) simply calling oneself indecisive. Based on this work, Rassin (2007) came to a definition of indecisiveness in which three experiences are crucial, namely perceived lack of information, valuation problems, and outcome uncertainty. These mental states can produce various maladaptive pre (e.g., procrastination, inflated information search), peri (e.g., tunnel vision), and post decision (e.g., doubting, checking, and undoing) behaviours.

Extreme indecisiveness can take the form of a psychiatric complaint. For example, the diagnostic criteria for dependent personality disorder include that the patient 'has difficulty making everyday decisions without an excessive amount of advice and reassurance from others' (American Psychiatric Association [APA], 2000, p. 725). Even more directly, the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; APA, 2000) mentions indecisiveness as a main feature of a major depressive episode. It is important to note that indecisiveness is not the same as general loss of interest, which is included as a separate criterion. Intuitively, one might mistake loss of interest for indecisiveness, but the DSM-IV-TR distinguishes these two phenomena. Particularly, one may fail to reach a decision because one does not know how to decide (i.e., indecisiveness) or because one is not motivated to decide (i.e., loss of interest).

While indecisiveness is thus by definition regarded as a hallmark of depression, there is virtually no empirical evidence to support the assumed association between indecisiveness and depression. By contrast, almost all of the empirical work on indecisiveness and psychopathology focused on obsessive-compulsive disorder (OCD). Frost and Shows (1993) developed the Indecisiveness Scale (IS), which aims to measure indecisiveness. The score on the IS was found to correlate with measures of obsessive doubting and compulsive checking as tapped by the Maudsley Obsessional-Compulsive Inventory (MOCI; Hodgson & Rachman, 1977),

in female undergraduates. Similar results were documented by Gayton, Clavin, Clavin, and Broida (1994) and Rassin and Muris (2005a) in different samples and employing other measures of obsessive-compulsive complaints. Rassin and colleagues also reported a positive correlation between the IS and the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) which yields some preliminary support for the assumed association between indecisiveness and depression (Rassin & Muris, 2005b; Rassin, Muris, Franken, Smit, & Wong, 2007). Nevertheless, it remains clear that in the literature, indecisiveness has been strongly associated with OCD rather than depression, which is nicely illustrated by the fact that a recently developed measure of obsessive-compulsive complaints (the Vancouver Obsessional Compulsive Inventory) actually contains a subscale on indecisiveness (Thordarson, Radomski, Rachman, Shafran, Sawchuk, & Hakstian, 2004).

The present studies set out to explore the link between indecisiveness and depression as assumed in the DSM-IV-TR (APA, 2000). Given the fact that indecisiveness is included in the diagnostic criteria for major depressive episode, and the reported correlation between the IS and the BDI (Rassin & Muris, 2005b; Rassin et al., 2007), it was assumed that our findings would confirm the association between the two phenomena. All in all, four studies were conducted to test the association between indecisiveness and depression.

Study 1. Self-reported indecisiveness and depression

In the first study, the association between indecisiveness and depression was explored with a correlational analysis. Self-report measures of indecisiveness and depression were completed by undergraduates. Based on previous work (e.g., Rassin & Muris, 2005b) and the DSM-IV criteria for depression, a positive correlation between indecisiveness and depression was expected.

Method

Participants: One hundred and fifty-four undergraduate students (124 of whom were women) participated in this study. Their mean age was 21.4 years (SD = 2.5; range: 18-35). They completed the IS and the BDI together with several other questionnaires that were irrelevant for the present study. They were given the questionnaires during lectures. In return for their participation, they received extra course credits.

Measures: The IS (Frost & Shows, 1993) originally contained 15 items (e.g., 'I try to put off making decisions'). Rassin et al. (2007) proposed to exclude four items because they are not domain-free and display a low factor loading (e.g., 'When ordering from a menu, I usually find it difficult to decide what to get'). In the present study, the shortened 11-items IS was used. Items are answered on a 5-point scale (1 = disagree strongly; 5 = agree strongly), with total scores ranging from 11 through 55.

The BDI (Beck et al., 1961) is a widely used 21-item instrument tapping various depressive symptoms (e.g., sadness, irritability, crying). BDI items are scored on a 4-point scale (0 = *not at all*; 3 = *very much*). Thus, higher total scores (range: 0-63) indicate higher levels of depression.

Results and discussion

The mean score on the IS was 28.2 (SD = 6.3, Cronbach's α =.86), and the mean score on the BDI was 4.6 (SD = 4.1; α = .77). Before computing the correlation between the IS and the BDI, possible effects of gender and age were tested. Women scored slightly higher on the IS than men (means being 28.9, SD = 6.2 *vs*. 25.2, SD = 6.0; $t[152] = 3.0$, $p < .01$), while age correlated negatively with the BDI (r = -.19, $p < .05$). Therefore, the correlation between the IS and the BDI was controlled for gender and age. This analysis yielded a correlation of .39 ($p < .01$).

This finding suggests that indecisiveness and depression are indeed associated. Evidently, causal relations cannot be determined with a correlational analysis. Furthermore, it is unclear to what extent the association can be translated to clinically depressed populations. Finally, the present study design does not allow conclusions about the specificity of the association between indecisiveness and depression.

Study 2. Specificity of indecisiveness as a symptom of depression

Findings of Study 1 suggest that there is an association between self-reported indecisiveness and depression. The present study set out to explore the specificity of the relation between indecisiveness and depression. Rassin et al. (2007) found that the IS was correlated with scores on measures of obsession, worry, anxiety, and depression, in a sample of undergraduates. However, subsequent regression analysis indicated that the IS was associated most strongly with obsession.

In the present study, the specificity of the relation between indecisiveness and depression was tested in a mixed clinical sample. Based on the fact that indecisiveness is a diagnostic criterion of depression, one would expect that depressed patients report more indecisiveness than a mixed sample of other patients.

Method

Participants: This study relied on a sample of patients with various DSM-IV axis 1 diagnoses. These diagnoses were made by a clinical psychologist at an outpatient mental health facility in Rotterdam, the Netherlands. There were five patients with major depression, eight with somatoform disorder, six with adjustment disorder, three with social phobia, and seven with miscellaneous disorders (e.g., bulimia nervosa, social phobia, specific phobia and posttraumatic stress disorder). This sample of 29 patients was divided into a small depression group ($n = 5$) and a mixed psychopathology group ($n = 24$). Further, a community sample matched for age and sex was recruited ($n = 23$). The mean age for the whole sample (of which 28 females) was 37.7 years ($SD = 10.2$; range: 20-62). The three groups did not differ from each other regarding gender ($\chi^2[2, 52] < 1.0$) or age ($F[2] < 1.0$).

Measures and procedure: All participants completed the IS. Patients completed the questionnaire at the beginning of therapy. The community sample was recruited from the personal environment of the first author.

Results and discussion

Cronbach's alpha of the IS was .81 ($n = 52$). The depressed patients scored 36.8 ($SD = 12.0$), the score in the mixed sample was 39.1 ($SD = 6.6$), and the nonclinical controls scored 31.3 ($SD = 2.6$). One-way ANOVA indicated that there was a significant difference: $F(2) = 10.3$, $p < .01$. Post hoc t-tests indicated that depressed patients scored equal to the mixed psychopathology sample ($t[27] < 1.0$), and higher than nonclinical controls ($t[26] = 2.1$, $p = .05$). The score in the mixed psychopathology sample was higher than that in the nonclinical sample: $t(45) = 5.3$, $p < .01$.

This finding suggests that, while self-reported indecisiveness is increased in depression, this increase is not specific to depression. That is, patients with a variety of psychiatric syndromes other than depression also reported inflated indecisiveness. This may indicate that indecisiveness is not a very good diagnostic criterion of depression. In the words of Zimmerman, McGlinchey, Young, and Chelminski (2006a): 'Simply demonstrating that a criterion is significantly more common in individuals with MDD (major depressive disorder) than individuals without MDD is not a sufficient demonstration of its necessity. Rather, to demonstrate an impact on diagnosis, it should be shown that eliminating the criterion from the list results in individuals being reclassified from a case to a noncase' (p. 313).

Study 3. Depression and behavioural manifestations of indecisiveness

In the third study, we sought to explore the association between depressive symptoms and behavioural measures of indecisiveness. Ferrari and Dovidio (2000, 2001) described a paradigm with which participants' indecisiveness can be observed. In this paradigm, the participant is instructed to choose a college course from five alternatives. For each alternative, there are six attributes (e.g., teacher quality, career relevance). Hence, there are 30 pieces of information, each of which is written on a separate piece of paper, lying face down on the table. The participant is instructed to consult as many pieces of paper as desired, while every consulted piece is placed back face down. With this paradigm, several indices of indecisiveness can be measured, such as the number of consulted cards, and the time needed to reach a decision. The main goal of the study was to explore which behavioural manifestations of indecisiveness are related to depressed mood.

Method

Participants: One hundred undergraduates (93 women) participated in this study. The mean age in this sample was 21.2 years ($SD = 2.6$; range: 18-35). Participants received course credits in return for completing the procedure.

Measures and procedure: Participants first completed the BDI (see Study 1; $\alpha = .75$). A subsample of 67 participants also completed the depression subscale of the Symptoms Checklist (SCL-90; Derogatis, 1977; $\alpha = .92$) which contains 16 depressive complaints (e.g., loss of energy) for which the respondent has to indicate to what extent they apply (1 = *not at all*; 5 = *a lot*). This was done because it has been argued that the BDI taps rather severe depressive symptoms, and therefore does better in clinical than in analogue samples (but see Beck, Steer, & Garbin, 1988).

Next, participants were subjected to a decision-making procedure described by Ferrari and Dovidio (2000). In this paradigm, 30 small paper cards were laid out, face down, on the table before the participant. The cards were laid out in five rows and six columns. Participants were told that the cards represented six categories of information (hence, six columns) about five courses (hence, five rows). The courses were named A through E. The categories of information concerned career relevance, time of day that the classes were given, teacher's quality, success rate for the exam, required effort, and peer recommendation. On the front side of each card (which was hidden from the participant), one of four qualifiers was typed: *Very poor*, *poor*, *good*,

Table 1 Stimulus materials for Studies 3 and 4

	Career relevance	Time of day	Teacher quality	Success rate	Required effort	Peer recommendation
Course A (15)	Very good (4)	Very poor (1)	Good (3)	Very good (4)	Poor (2)	Poor (1)
Course B (9)	Very poor (1)	Good (3)	Very poor (1)	Very poor (1)	Poor (2)	Very poor (1)
Course C (12)	Poor (2)	Very poor (1)	Very poor (1)	Very good (4)	Good (3)	Very poor (1)
Course D (21)	Good (3)	Very good (4)	Very good (4)	Poor (2)	Very good (4)	Very good (4)
Course E (18)	Very good (4)	Good (3)	Very good (4)	Very poor (1)	Very good (4)	Poor (2)

Participants saw the qualifiers, but not the numbers

or *very good*. These qualifiers were distributed in such a way that the five alternatives actually differed in attractiveness. Hence, participants really had something to choose. The stimulus materials are presented in Table 1. In order to choose a course, participants were allowed to turn over as many cards as they wanted. However, after consulting a piece of information, the pertinent card was to be placed back faced down. Although there was no time constraint, the experiment-leader registered the time needed to make the final choice.

This paradigm allows the registration of several decision-making variables. In this study, decision time, the number of consulted cards, and the number of checks (i.e., consulting a card that had already been consulted) were registered. It follows from the literature that these three variables are characteristics of indecisiveness (Ferrari & Dovidio, 2000, 2001). That is, indecisives need more time to decide, gather more information, and check their own work more often. Evidently, this decision-making paradigm differs from the IS as a measure of indecisiveness in at least two ways. First, whereas the IS aims at measuring trait indecisiveness, the temporal stability of the indecisiveness as measured with the present paradigm is unknown. Second, whereas the IS measures indecisiveness as a psychological complaint, the current paradigm aims at measuring behavioural indecisiveness. In order to establish the association between the two measures of indecisiveness, the following pilot study was carried out. Sixty-seven undergraduates (52 women) with a mean age of 21.6 years (SD = 2.9) completed the IS, and were then subjected to the paradigm described above. Before computing the correlations between the IS and the three behavioural indices of indecisiveness, possible associations with gender and age were tested. Whereas there were no significant correlations between age and the crucial variables, there was one gender difference, in that women checked their previously consulted cards more often (M = 2.4, SD = 3.2) than men did (0.67, SD = 1.2; $t[65] = 3.2$, $p < .01$). Given this difference, the pertinent correlation was controlled for sex. Findings indicated that the score on the IS (M = 28.6, SD = 5.7, α = .83) correlated significantly with the time needed to decide (M = 96.0 second, SD = 44.9; $r = .39$, $p < .01$), the number of consulted cards (M = 16.1, SD = 6.1; $r = .32$, $p < .01$), and the number of checks (M = 2.0, SD = 2.9; $r_{(\text{partial sex})} = .26$, $p < .05$). These data suggest that the paradigm employed in the current study measures behavioural indecisiveness that is akin to the indecisiveness tapped by the IS.

Results

An initial analysis revealed that age was negatively correlated with scores on the BDI ($r = -.20$, $p < .05$) and scores on the SCL-90 depression scale ($r = -.29$, $p < .05$). Therefore, in further correlational analyses, participants' age was partialled out. Descriptive statistics and correlations are presented in Table 2. As can be seen, the two depression measures correlated satisfactorily. However, there were no correlations between depression on the one hand, and indecisive behaviour on the other.

Discussion

The present findings yield no support for an association between indecisiveness and depression. This is in contrast with the findings in Study 1.

Table 2 Descriptives of the main variables and their correlations, controlled for age (Study 3)

	Mean (SD)	Pearson correlation			
		SCL-90	Time	Cards	Checks
BDI	5.1 (4.0)	.76*	.12	.02	.01
SCL-90 depression	21.4 (6.8)	-	.06	.08	.11
Decision time (seconds)	100.0 (35.6)		-	.50*	.57*
Number of cards[1]	17.3 (5.7)			-	.76*
Checks	4.1 (5.3)				-

[1] In this variable, checks are excluded; BDI = Beck Depression Inventory; SCL-90 = Symptoms Check List; * $p < .01$

Perhaps, this divergence suggests that there is a difference between self-reported indecisiveness and indecisive behaviour. However, our pilot study indicated that the two kinds of indecisiveness do at least correlate moderately (see also Ferrari & Dovidio, 2000, 2001). Our failure to find a positive correlation can not easily be attributed to lack of variance in the depression measures, because such variance was observed. Neither did the study lack statistical power. Power analysis freely accessible on the internet (www.danielsoper.com) indicated that in the current design, a medium effect (.15) is observable with a β of .05 in a sample of 87 participants. Hence, the power in the current study exceeded .95. However, it should be noted that the p values of the correlations between the BDI and SCL-90 on the one hand, and the behavioural manifestations of indecisiveness on the other did not even approach significance (all *p*s > .28). In conclusion, the general pattern of null-findings warrants the conclusion that depression is not that strongly related with behavioural indecisiveness.

Study 4. Induction of depressed mood and indecisiveness

In this study, we sought to test the association between depression and indecisiveness with an experimental design. Participants underwent a mood induction, and were subsequently subjected to a decision-making paradigm. The hypothesis was that those who underwent a depressed mood induction would perform worse in the decision-making procedure than those who underwent a positive or neutral mood induction.

Method

Participants: In this experiment, 60 individuals from the general community participated. They were selected from the personal environment of the experiment leader. Their mean age was 41.3 years (*SD* = 12.2; range: 18-59). There were 31 women in this sample. Participation was voluntary and unrewarded. Participants were tested individually.

Measures and procedure: Upon arrival at the lab, participants underwent a mood induction procedure. Twenty participants were asked to recall the unhappiest moment of their lives, 20 others had to recall the happiest moment of their lives, and 20 participants were asked to recall what they had done the day before the experiment. This autobiographical recall task was intended to induce depressed, happy, and neutral mood (see Martin, 1990; Westermann, Spies, Stahl, & Hesse, 1996). Participants were left alone for five minutes under the instruction to reminisce about the pertinent event, after which the experiment leader re-entered the room and handed out a paper with a 100 mm visual analogue scale (VAS) on which they rated their current mood (0 = *sad*; 100 = *happy*).
Next, participants underwent the same decision-making task as described in Study 3. This time, the experiment leader also registered which course the participants ultimately chose. This is important, because the alternative courses differed in their overall attractiveness (see the quantifiers in Table 1). All in all, course D is the best choice (with 21 points), while course B is the worst (9 points). The chosen alternative was employed as a measure of decision quality. Also new, compared with Study 3, is that after choosing a course, participants were asked to rate their confidence ('How sure are you that the course you chose is indeed the optimal alternative for you?') on a 100 mm VAS ranging from 0 (*not at all*) to 100 (*completely*).

Results and discussion

First, it was tested whether the mood induction had been successful. A one-way ANOVA yielded a significant difference between the three groups on the manipulation check VAS: $F(2) = 18.7, p < .01$. Post hoc t-tests suggested that participants in the depressed condition ($M = 57.5, SD = 15.3$) scored lower than those in the happy ($M = 76.3, SD = 8.9$)

Table 3 Decision-making performance as a function of induced mood (Study 4)

	Depressed (n = 20)	Non-depressed (n = 40)
Decision time (seconds)	99.0 (65.6)	126.2 (84.0)
Number of cards[1]	16.3 (9.1)	16.8 (8.4)
Checks	1.6 (2.8)	2.4 (4.9)
Choice quality	17.9 (4.0)	19.2 (3.3)
Confidence	69.0 (22.0)	72.0 (15.7)

[1]In this variable, checks are excluded

and those in the control condition (M = 76.8, SD = 8.5; both $ps < .01$), while the last two groups did not differ from each other ($t[38] < 1.0$). This suggests that the depressed mood was successfully induced, whereas the happy mood induction had not elevated participants' mood higher than the neutral mood condition level. Given this finding, the happy and control groups were conjoined. Hence, two groups remained: A depressed group (n = 20; 10 women; mean age = 41.4, SD = 12.4) and a non-depressed group (n = 40; 21 women; mean age = 41.2, SD = 12.2). There were no gender ($\chi^2[1, 60] < 1.0$) or age differences ($t[58] < 1.0$) between the two groups.

The mean scores on the decision-making variables are presented in Table 3. T-tests indicated that the two groups did not differ on any of the five indecisiveness manifestations (all $ps > .17$). This finding adds further support for the idea that indecisiveness is not a prominent feature of depressed mood. In contrast to the correlational analyses in Study 3, the current study relied on an experimental design. Admittedly, induced depressed mood was modest (i.e., 57.5 on a scale from 0 to 100), but the difference in mood with the other group(s) was significant. In all, Studies 3 and 4 cast doubt on the notion that indecisiveness is a symptom of depression. The only evidence of an association between indecisiveness and depression stems from correlational studies relying on self-reports (Study 1; see also Rassin & Muris, 2005b; Rassin et al., 2007).

General discussion

All in all, the present findings hardly or do not support the association between depression and indecisiveness as assumed in the DSM-IV-TR. In four studies, there were 14 instances in which indecisiveness could have been found to be specifically associated with depression. In only two of these 14 instances was the expected association confirmed, namely the significant correlation in Study 1, and the depressed patients' elevated scores on the IS in Study 2, compared with the nonclinical sample. In 12 other instances (i.e., the nonspecificity in Study 2, six non-correlations in Study 3, and five absent group differences in Study 4) the hypothesised association was not observed. Thus, in only 17% of the findings, the presumed theoretical link between depression and indecisiveness emerged. In fact, the association was only observed when self-reports of depression and trait indecisiveness were employed. Whereas non-findings are oftentimes mistrusted, their diagnosticity must not be underestimated (Coursol & Wagner, 1986; Greenwald, 1975; Rosenthal, 1979).

While the association between depression and indecisiveness has virtually not been studied empirically, the current findings do not completely stand on their own. Lewicka (1997) compared the decision making of depressed patients with that of nonclinical controls. In that study, participants were instructed to choose a partner with whom they had to engage in a joint assignment. Participants were instructed that they could ask several questions in order to determine which of the five candidates they would choose. The author defined so-called 'criterion focused' questions (e.g., 'Which candidates are sociable?') and 'alternative focused' questions (e.g., 'Is candidate X hard working?'). She also explained that criterion focused questions are more informative (covering a larger domain) than alternative focused ones. Surprisingly, depressed patients asked more criterion focused questions than did nonclinical controls. Hence, Lewicka concluded that depression is in fact characterised by an unbiased decision-making style. This finding suggests, as do those of the current studies, that decision problems may not be characteristic of depression.

While the question arises to what extent depression and indecisiveness are truly related, clinical research suggests that the criterion of indecisiveness is hardly or not crucial to the diagnosis of depression in clinical practice. For example, Zimmerman, McGlinchey, Young, and Chelminski (2006b) found in a sample of approximately 1500 depressed patients that the criterion of indecisiveness has satisfactory selectivity (i.e., 92% of participants who were not categorised as indecisive, were also not depressed), but poor sensitivity (i.e., only 51% of the depressed patients were indecisive; see also McGlinchey, Zimmerman, Young, & Chelminski, 2006). Based on this study, Zimmerman et al. (2006a) conclude 'that the symptoms of increased weight, decreased weight, and indecisiveness rarely influence diagnostic classification and are thus candidates for elimination' (p. 313). At the time of writing of this article, the exact DSM-V criteria for depression (scheduled for release in May 2013) are

unknown. However, pre-releases give no reason to believe that indecisiveness will be removed from the list of criteria in the DSM-V.

In sum, the present data cast doubt on the notion that depressed mood is characterised by indecisiveness. They are thus in line with previous critique on the inclusion of indecisiveness as a diagnostic criterion of major depressive episode. They also emphasise that indecisiveness should be separated from seemingly associated phenomena such as loss of interest and concentration problems.

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ERIC RASSIN, PHD

He studied law and mental health sciences, and currently works at Erasmus University Rotterdam. His main research interests are decision making and legal psychology. He has written articles on thought suppression, indecisiveness, and fact finding.

COLIN VAN DER HEIDEN, PHD

A clinical psychologist, he combines clinical practice with scientific research. Previously, he was chief scientist at several mental health institutions, and he currently works at PsyQ, Rotterdam. His main research interests are intolerance of uncertainty and cognitive theories of generalised anxiety disorder.

Draw what you see!

A psychological reflection on children's drawings in Theresienstadt

During the Second World War an estimated 15,000 children lived in the concentration camp Theresienstadt, only approximately 100 to a maximum 250 of them survived the war. The children in the camp drew vivid pictures of their life and experience in the ghetto, which have remained until today. The historical value of these drawings can hardly be overrated. In this article, however, we intend to demonstrate the interesting value which lies in a psychological rather than a historical interpretation of those drawings, in particular regarding the information they provide about the children's experiences. At the same time, we discuss the restrictions that such an approach is subjected to.

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Authors: Deborah Grisse* and Gerrit Breeuwsma**

*Herz- und Diabeteszentrum NRW, University Hospital of the Ruhr University Bochum, Germany,
**Heymans Institute of Psychology, University of Groningen, the Netherlands

Correspondence to:
G. Breeuwsma, Heymans Institute of Psychology, University of Groningen, Grote Kruisstraat 2/1, 9712 TS Groningen, the Netherlands, e-mail: G.Breeuwsma@rug.nl

Piles of shoes, spectacles, suitcases and hair were all that remained of the people who were killed in the concentration camps. Those who survived returned to the land of the living burdened with their memories of death and destruction. Sometimes they tried to tell their stories, but shortly after the war, it appeared to be difficult to find a listening ear. Many people could not (or would not) believe the horrible experiences of those who returned from the camps and many survivors, disappointed to say the least by the lack of interest, more or less decided to stay silent for a long time. With the passing of the years more and more stories were published and some of them became quite famous. If you want to know what it was like to be in a concentration camp you should read the work of Primo Levi, Robert Antelme or Imre Kertész and even though it will never reveal the real experience of a camp survivor one could hardly think of a way that brings you closer.

In spite of all these stories, the accounts of child survivors were rather scarce. They were condemned to the camps, as George Steiner (1970) wrote, 'not for anything they had done or said', but just for 'the crime of being one's children' (p. 140). Being a child was, in many ways, a disadvantage in the camps. Especially young children had very little chance of surviving. Of those who did, some were too young to produce a reliable story and, moreover, for a long time nobody took any notice of their accounts. Former Minister of State and Mayor of Amsterdam Ed van Thijn, 10 years old when he was liberated in the transit camp Westerbork, once stated that it would drive him mad when he was not taken seriously as a survivor because of his age ('What could you know of the war? […] You were just a child') (Van Thijn, 2000, p. 179).

Of course, some survivors tried to recapture the memories of their stay in the camps, and the more or less autobiographical novels of writers such as Elie Wiesel and Imre Kertész can be read as children's accounts. In the Netherlands Jona Oberski and Gerhard Durlacher found many readers with their autobiographical stories in which the perspective of the child was taken. But some writers, such as Kertész, were quite aware of the risks that speaking from a child's perspective makes the story more vulnerable for false sentiments.

However, even when we agree that they succeeded to speak with 'the voice of the child', these stories were, of course, written by adults trying to remember their childhood experiences, and as such are always a reflection on these experiences. The reliability of

these stories can sometimes be questioned, as in the infamous case of Binjamin Wilkomirski's 'child memoir' *Bruchstücke (Fragments)*. Wilkomirski (1995) claimed that he told the story of his camp experiences, as young as four, five years of age. His story was praised as an authentic voice from the darkness of the camps, but after some research by a sceptical journalist it became clear that almost everything about Wilkomirski was a lie: his age (he was born in 1944), his background (he was non-Jewish and raised in Switzerland), his experiences (he had never been in a camp, but identified himself with Jewish survivors, while his story was based on reading novels such as *The Painted Bird* by Jerzy Kosinski). It was in many ways ironic: the voices of those children who survived the camps were not heard, while the lies of those who exploited the sentiments associated with children became famous for a while.

But even if you tell your childhood stories with the most honest and sincere intention, it will, as Margarete Mitscherlich (2012) stated, always be clouded by the interpretation and thoughts of the person you are at present which invariably is someone else from the child you once were. And so these childhood stories are always told with some sense of naivety about what can be revealed from the past.

I never saw another butterfly...

As the years go by, the gap between our time and the war deepens. Child survivors grow old and eventually die, and all that is left are scattered fragments of a childhood in wartime, while hardly any physical remnants remain. But nevertheless, there still are some artifacts from the concentration camps left. Some clothes, toys and cuddles, things people, including children, carried on their bodies and managed to hide in the camps. Of course, these things themselves carry no special meaning related to the atrocities of the war, but knowing that they belonged to someone 'who was there', made them special, as if they were signs from another world.

A very special case in this context is the collection of drawings and poems that belonged to children in Theresienstadt Concentration Camp[1]. A drawing, even when it is made in a rather abstract way, is never meaningless and always refers to someone who made it in a very personal way. Poems and stories are always filled with meaning, even when their meaning is not immediately clear for everyone to see. And preserved over time they come to us as a message in a bottle. This message, if still readable, is understandable for us even today, although we cannot be sure about the precise circumstances under which the bottle was thrown into the water (was it a cry for help from a faraway island or did it come from children playing?).

However, there is enough evidence that the Theresienstadt drawings are authentic. The children's drawings number up to over 4000, while there are hundreds of poems and other literary forms (Frankova, In: Franková & Povolná, 1993). Some of these pictures and poems were collected and shown in an exhibition and a book, published under the title *I never saw another butterfly*, named after a verse in one of the poems:

The butterfly
That last, the very last,
So richly, brightly, dazzling yellow.
Perhaps if the sun's tears would sing
Against a white stone…

Such, such a yellow
Is carried lightly 'way up high.
It went away I'm sure because it wished
To kiss the world goodbye.

For seven weeks I've lived in here,
Penned up inside this ghetto
But I have found my people here.
The dandelions call to me
And the white chestnut candles in the court.
Only I never saw another butterfly.

That butterfly was the last one.
Butterflies don't live in here,
In the ghetto.

(by Pavel Friedman, 4-6-1942, In: Franková & Povolná, 1993)

The original and expanded edition of *I never saw another butterfly* shows all sorts of drawings made by the children, most of whom died in Theresienstadt or Auschwitz. They drew butterflies and their lost homes but they also drew life in Theresienstadt, the barracks and people working under inhumane conditions. The drawings remained and today form a representation of how children experienced the war and the imprisonment in a camp like Theresienstadt. One of the children who survived is Helga Weissová. As a 12-year-old she was deported to Theresienstadt. When she left, her father told her to 'draw what you see', as if he already anticipated the historical importance of the drawings and maybe understanding

[1] Throughout the article we use 'Theresienstadt' instead of the place's current name Terezín to emphasise the period between 1940 and 1945 when Terezín was used as a ghetto and concentration camp by the Nazis.

that, in the end, it should be the only trace of human life left. In this article Helga will, to some extent, act as our model child, because her drawings are perfect illustrations of what the Theresienstadt drawings may tell us about the war from the perspective of children. At the same time she is a special case, with special drawing skills, and as untypical a model child can be (which is in a sense always the case with model children).

Over the span of two years she made drawings of everyday life in the camp. How bread was being distributed on trolleys that were used to dispose of dead bodies, the harsh living conditions, sick and dead people. After two years of incarceration in Theresienstadt, Helga was transported to Auschwitz-Birkenau and Mauthausen where she was freed by the Allies in 1944.

The children's drawings which remained have been interpreted from a historical perspective numerous times. Stargardt (1998) characterises them as 'a moving memorial to the vividness of the imagination of children in adversity' (p. 192), but at the same time points to the difficulties we have to encounter when we use these drawings as a historical source. They may be seen as 'Holocaust art' only in as far as we remember that many divergent realities persisted within the system of mass murder' (p. 193). However, the historical and human value of children's drawings from concentration camps remains indisputable.

According to Stargardt, the historian runs the risk of overinterpreting and misinterpreting the drawings. The historian may have some experience in interpreting the visual material depicting children's lives; he hardly knows anything about the subjectivity in children's productions of visual material. Stargardt suggests that psychology (and psychoanalyses) could help us, but with that we face the problem that 'little is known about most of the children as individuals' (p. 199).

We could leave it at that and keep looking at the pictures, wondering what they want to tell us. In this article, however, we prefer to make a first small and modest step in the direction of exploring the psychological domain; we will raise the question of how these drawings can be understood and interpreted from a psychological perspective, while being aware of the risk of adding to the collection of overinterpretations and misinterpretations.

To start with, Theresienstadt was obviously an extraordinary situation, creating psychological trauma far exceeding anything that psychological literature has addressed. Psychological literature aimed at the interpretation of drawings is usually directed towards clinical settings, in controlled environments and often requiring strictly given instructions regarding the use of drawings. This is not applicable to the Theresienstadt drawings, making this situation difficult to compare with psychological and academic literature. The question therefore arises to what extent any knowledge about the children's experience can be gathered from the concentration camp drawings.

We intend to demonstrate why it is interesting to interpret the drawings from a psychological (and not exclusively a historic) perspective, while simultaneously highlighting the limitations and restrictions such an approach is subjected to. The special value of the Theresienstadt drawings might become apparent as the viewer compares those drawings with ones made by children growing up under normal circumstances and in safe environments (Makarová, 1990, Weissová, 1998). That is when the magnitude of the trauma 'Holocaust' awakens to the viewer and it becomes obvious that almost everything in the camps was beyond normality. As a result of this, we can not only interpret the drawings regarding the child's perspective, but it additionally allows us to examine the effect of those drawings on the viewer. They provide a unique insight into the lives and experience of the children in the concentration camp and also enable us to gain information on the emotion they elicit in contemporary viewers. As such, these drawings also teach us something about our perspective on the war.

Most of the children in Theresienstadt did not survive. Of the approximately 15,000 children who were transported to Theresienstadt only a small number survived (Glazer, 1999). What remained were their drawings. But what kind of information can be concluded and interpreted from these drawings? Why and how were they made in the first place, what did they mean to the children, as an activity and as a product of creativity? Do they reveal some of the effects the trauma of war has on children, and did creative acts like drawing help to find relief in such a traumatic situation?

In his afterword in a new edition of *I never saw another butterfly* in 1993 Vaclav Havel (In: Volavková, 1993) described the drawings and poems as 'a delicate testimony of the longings, dreams and experiences of the Theresienstadt children', and they are indeed. But at the same time we should not make the mistake of romanticising the life and death of children who were the involuntary inhabitants of Theresienstadt. We managed to interview a Theresienstadt survivor and friend of Helga Weissová, named Michaela Vidlakova and she made clear that we should be careful with the interpretations of the drawings. We will come back to this later. First a few words about Terezín or Theresienstadt as the camp was known by the Nazis.

Theresienstadt

During the Second World War Theresienstadt was a Nazi concentration camp and ghetto and between 1940 and 1945 was inhabited by around 150,000 people. Of all those people, approximately 15,000 children lived in this overcrowded space and only an estimated 100 (to a maximum of 250) children younger than 15 years survived deportation to the East (Glazer, 1999). Theresienstadt holds a special place in the history of ghettos and concentration camps. To the outside world the Nazis presented Theresienstadt as a model Jewish settlement, a place for rich and retired Jews; they even went as far as producing a propaganda movie about the good quality of life in Theresienstadt. In reality, Theresienstadt was a concentration camp, a ghetto gathering up to over 50,000 people in a fortress that was built to be a military compound for 5600 soldiers (Bondy, 1997).

Conditions

Theresienstadt was mainly utilised as a work camp and ghetto, as well as a transit camp for transports eastward bound to extermination camps such as Treblinka and Auschwitz-Birkenau. Under terrible hygienic conditions and enduring hunger and disease, approximately 127 people died daily in 1942 and by the end of the war a total of 35,000 people had succumbed to the conditions in the ghetto (Chládková, 1991).

Housing in Theresienstadt was difficult due to extreme overcrowding. Bathrooms were scarce; water was limited and often contaminated. People slept on the concrete floor and eventually triple-tiered bunk beds were built and all possible living space was occupied.

Despite the hardships of life in such an overcrowded ghetto and the daily farewells with people enlisted for transportation, inhabitants usually stayed in the ghetto for a few years before being listed for transportation. This enabled a certain culture to flourish in Theresienstadt. Many educated and famous Jews were imprisoned in Theresienstadt, ensuring the survival of a cultural life, even during times of great deprivation, as they knew culture to be so important to maintain a sense of dignity and humanity for all prisoners. As a result, there were several classical orchestras and other musical ensembles, and there were artists, writers, scholars and scientists who performed and shared their art and passion. The Nazis used this for Propaganda and tried to fool the outside world into believing that Theresienstadt was, in fact, a Jewish settlement rather than a concentration camp.

The inhabitants tried to ensure that all children received an education, which mostly had to be done in secrecy. Over the age of 14 all children had to work, therefore the children's education often occurred under the disguise of cultural work and activities such as working on stage. The clandestine weekly magazine *Vedem* (We Lead) was published by boys in Theresienstadt, and daily sports activities and various other classes were held. Furthermore, the children's opera *Brundibar* was performed by children in Theresienstadt (Brenner, Woods, & Frisch, 2009; Franková, 1998).

Art classes

The artist Friedl Dicker-Brandeis created art classes for the children in the ghetto with the result that roughly 4000 drawings, stories and poems survived the war and Nazi destruction. Today drawings remain as the only visual evidence and testimony that originated inside the concentration camps, because during the war the Nazis were adamant to destroy all visual evidence (Brenner et al., 2009).

As all education of Jewish children was prohibited by the Nazis those classes had to happen in secrecy, using material such as pieces of cardboard and the reverse side of report papers that teachers, children and other prisoners gathered in the ghetto. Dicker-Brandeis even had her relatives send art books (with reproductions of the works of Giotto, Vermeer and Van Gogh, to name a few), instead of food in the scarce packages which the prisoners were allowed to receive, showing the passion and devotion she put into those classes. Even though the great artists played a role in stimulating the children to draw, she did not encourage them to copy the reproductions. According to Stargardt (1998), Dicker-Brandeis 'made the children choose their subjects by telling them fairy-tale stories or simply listing objects whose arrangements they had to organise' (p. 194).

Most of the pupils in the class were girls. Some boys did draw but quite often to illustrate their magazine *Vedem*. Stargardt (1998) distinguishes three levels on which the children's drawings operate. First of all there are the drawings in which medium and technique seem to be the most important goal. Secondly, there are drawings with particular topics such as Christmas or Seder, home and the countryside (the largest group) and still-life paintings. Finally, there are the drawings of everyday life in the ghetto. Although this group is smaller than the drawings of home and the countryside, they were the product of 'free drawing' and, as such, seem to reflect the spontaneous interest of the child.

Dicker-Brandeis did not have the intention to create precocious artists with her art classes in the ghetto. Her overall goal was to offer psychological support to the children and to give them something to help them survive the terrors of war (Wix, 2009). Besides stimulating the children's observation of the environment surrounding them, Dicker-Brandeis

strongly believed that art could open the children to preserve their self-determination and thus serve as a source of energy. By this she hoped to restore the shaken consciousness of those children (Makarova, 1999). And that was precisely the effect it had on (some of) the children. One surviving girl, Helga Pollock, later stated about the classes 'during art class I was oblivious to everything else […] at these moments I felt like a free human being' (in: Brenner et al., 2009). The classes helped the children escape their daily reality, a 'spiritual rehabilitation' as Anita Franková (1993) called it, 'a form of escape from the joyless reality. It was a delight and a therapy' (In: Franková & Povolná, 1993, p. 84). While not destined to make future artists of those children, Dicker-Brandeis helped them to establish a relationship with the outside world and the memories of their past in this traumatising situation. Besides illustrative and narrative sketches the children learned to draw portraits of each other which served an increasingly important function in an environment where numbers came to replace names (Pariser, 2008). 'Dicker-Brandeis saw her job as a balancing act encouraging the children to escape via their imagination, and acquainting them with the duty to observe' (Pariser, 2008). Her sensitivity to the developmental needs of the children and her teaching work resembles, one could say, the work of today's art therapists.

In the following we will take a look at some of the pictures and try to examine the extent to which those drawings can be interpreted in order to understand the children's traumatic life experiences. Hopefully it will provide us with some additional information on the development of children.

The Theresienstadt drawings and the development of children

Almost all children start drawing around the age of two, and approximately a year later they start grasping concepts of meaningful symbols, such as circles which are among the first drawings produced by children (Mortensen, 1991). With increasing maturation the child starts enriching the drawings with detail. Generally, the amount of detail in children's art is associated with the child's increasing intelligence and ability to communicate via drawing and art (Kellogg, 1970; Matthews, 1999).

Children understand comprehensive concepts such as trees and houses before they can differentiate single houses or trees (Eng, 1999). Therefore, the child will draw stereotyped houses, as an oversimplification of the concept 'house', rather than a realistic copy of any actual house. This is because children draw things as they know them to be, rather than as they are visually perceived (Cherney, Seiwert, Dickey, & Flichtbeil, 2006). Every child draws during their development and children's art has been analysed from different psychological perspectives. The cognitive and emotional development, but also the expressive and artistic abilities which the child possesses, are evident in drawings and can be studied using children's art.

Especially in psychotherapy drawing (as an activity) holds an important function (Talwar, 2006). Whereas children are sometimes unable to communicate their thoughts and feelings in speech in the therapeutic situation, the act of drawing can serve as a nonverbal way of expressing experience and accessing emotion in therapy for a traumatising situation. In the case of the drawings from Theresienstadt we can assume that this is indeed the effect that the process of drawing had on the children. In therapy with traumatised people and especially with children, drawing is a subtle way for the individual to connect to their feelings and is often perceived as less frightening than verbally expressing traumatic memory and emotion, although there still is need for controlled studies on this issue (Talwar, 2006).

Gardner (1980) stated that expressive drawing is most likely to involve children whose 'developmental course had been especially rocky'. Clearly, being forcibly relocated into an overcrowded ghetto such as Theresienstadt and experiencing systematic mass murder is an extremely traumatising situation which significantly impacts the (emotional) development of children. The drawings remaining from the ghetto depict those experiences as seen through the children's eyes. Generally, children will use the medium of drawing spontaneously and more freely than verbally reporting distressing emotions (Glazer, 1999).

In the extreme situation of Theresienstadt one can assume that drawing possibly serves as the child's way of coping. However, one has to note that, in this instance, it is difficult to apply the term coping in a proper psychological reference. Coping usually refers to adapting behaviour in order to reduce the amount of stress produced by a specific situation (Davison & Neale, 2007). Regarding the situation which the children encountered in Theresienstadt and the fact that they were systematically murdered, the children were unable to alter their situation. Considering their age it remains questionable as to what extent they were able to intentionally utilise coping strategies to alter their emotional state and adapt to the situation. Therefore, it is difficult to use the term coping in the appropriate psychological way and one is ultimately left with hypotheses.

Nevertheless, one could state that by arranging a context in which the children could draw, Dicker-Brandeis created opportunities for coping, or better,

moments in which the children could temporarily forget their actual situation. This could be achieved by choosing a topic that lies outside the reality of the ghetto. Many of the girls, in fact, drew pictures around the theme of home, mostly idealised houses which had little connection with their former homes, but even less with the dormitories in which the actually lived.

Stargardt (1998) already noted that in the children's drawings the pre-ghetto world is kept almost completely apart from the ghetto world. They drew pictures of home and family, and they drew pictures of the extreme conditions in the ghetto, but never together in the same drawing. However, in both instances they managed to submerge themselves into the drawing process and maybe that was precisely the coping these children needed most. Or as Stargardt observes 'the concentrated focus her [Dicker-Brandeis, DG & GB] pupils put into composing their pictures tells us that they felt safe and secure while engaged in painting and drawing' (p. 228). One might say that while absorbed in their drawing, for a moment these children were able to at least partially escape the ghetto for a little while.

In the next section we will have a more detailed look at our 'model child', 12-year-old Helga Weissová, and will demonstrate how she managed to go beyond what one might expect from children and their drawings.

The drawings of Helga Weissová

Helga Weissová came to Theresienstadt in December 1941, roughly a month after her 12th birthday. She had been living in Theresienstadt for almost three years before being enlisted on transports to Auschwitz and Mauthausen, where she was liberated in May 1945. Upon her arrival in Theresienstadt her father told her: 'Draw what you see!'. He urged her to draw what she saw around herself; to document life in Theresienstadt. She can be considered a talented child, with a spontaneous and innate desire for drawing. Her drawings, however, were not spontaneous in a narrower sense of the word. In fact, encouraged by her father, she lost some of the childlike, naive and innocent view on the world, which is just what we like to associate with children. One day she drew a picture of two children building a snowman and smuggled it into her dad's barrack.

Helga later stated that *Snowman* was her last childlike drawing which shows that she had an idea about what typical children's drawings are to look like. And, presumably, even as a maturing teenager she might have started to grasp that she was, and in fact, had to disembark from her 'childish' point of view and drawing style (Weissová, 1998). Everyday life in the ghetto became her topic.

1. Snowman December 1942, by Helga Weissová, aged 12

2. On the toilet 1942, Helga Weissová, aged 12

Although she seems to change her perspective, the childlike view does not completely disappear. On first sight, Helga's drawings still have a naive style and they are neither frightening nor shocking, which the viewer might expect of drawings originating in a concentration camp (Weissová, 1998). But when comparing them with drawings of an average childhood, of free and carefree children, the real situation of growing up as a Jewish child in Theresienstadt during the Holocaust awakens to the viewer. Helga's drawings portray and document the years of her life and adolescence in Theresienstadt in her personal, childlike way of experience. The viewer expects to gain a glimpse of a visual documentation of everyday life in Theresienstadt, and those drawings provide just that. In her book Helga says: 'the impressions that were to orient me from this point in time ended my childhood' (Weissová, 1998). But these comments were made in retrospect by the adult Helga, the artist, and as such are as (un)reliable as any comments on our own past would be, and remain a naive recollection of her former child-self.

Still, there is some detachment in her drawings that makes them untypical for children. To the viewer it appears as though through drawing, Helga switches from the role of a child imprisoned by the Nazis, into the role of an observer, documenting the situation through her drawings and her subjective perception. In this way, rather than taking the role of a victim, she can distance herself from the situation and interpret it as an observer, which is a 'healthy' identity. Even if only for a short while, this can still have had a beneficial effect on the child in enduring such a traumatising situation.

Her detachment can also be interpreted as a form of coping, for instance when Helga depicts the humiliating situation of the toilets in a caricature-like way.

Howard Gardner (1980) already noticed that artistic adolescents prefer a realistic style. To achieve that they quite often make use of caricature and cartooning, which he characterises as a compromise between the desire to draw well and, as yet, the lack of technique to do this. The drawing *On the toilet* can be seen as an example of Helga's ability to turn the humiliating facts of the unhygienic and overused facilities into a realistic picture: she gives a light-hearted, maybe even humorous twist to this awkward situation which, by making it explicit, would fill us with shame under normal circumstances. In spite of the gravity of the situation, looking at the picture one begins to wonder how the girl will manage to use the toilet paper and keep the door closed at the same time.

Utilising humour requires the cognitive restructuring of stressful or negative events (Abel, 2002), which makes this interesting from a psychological perspective, seeing that the girl was able to apply humour in her drawing – maybe intentionally, maybe emerging from the drawing process itself – or at least elicit it from her viewers. Not all children will, of course, be able to achieve this in their drawings and Helga can be seen as very prolific in this sense.

However, a psychological interpretation of the content is not the only utilisation of her pictures, but can also be demonstrated with regard to her use of colour, and artistic skills and construction. The following two pictures show her skills as an 'artist' and the rapid development in her ways and methods of expressing herself.

In this first picture shown below, the use of colour appears almost happy or hopeful. Nevertheless, the people are depicted in a bent over and stooping posture, they look as if they have been through a lot. Each person is carefully depicted, with their individual clothing and their faces recognisable. Some faces even seem to have a hint of a smile (Weissová, 1998).

3. Arrival in Theresienstadt 1942, by Helga Weissová, aged 12

Compare this with the grey mass of people, all blended into one dark crowd, depicted in grey colour and lacking all individuality, who are paying their last respects to their dead people. By choosing such a style of depiction, Helga communicates the feeling of abasement, of all identity and sense of humanness being taken away from those people (Weissová, 1998). There were two years between the first and second picture. Psychologically speaking one can clearly see the development that Helga underwent in those two years. The childlike manner of drawing that was apparent in her first drawing has vanished in the second one. Whereas in the first drawing she gives the individuals an identity, she fades the people into one grey mass in the second picture. In interpretation this might mirror what she has been witnessing and experiencing in the ghetto over the past two years. People housed in small quarters, cramped together like animals, people bearing numbers instead of names, robbed of all individuality and identity (Weissová, 1998).

4. The last farewell 1944, by Helga Weissová, aged 14

Furthermore, Helga was no longer using colour. She chose to depict this second scene in greyish, dark colours, which gives the impression of hopelessness and lets the viewer sense the deprivation of life in Theresienstadt and the consequently high mortality. The lines are faded and rough. Concerning her

development, it becomes apparent that Helga grew in her artistic skills and that she is very able to express her experience and the deprivation in her pictures. It is worth mentioning that Helga's colours, which she brought to Theresienstadt, lasted for almost the entire three years of her imprisonment, so pictures drawn in a single colour, or greyish tones like this one, are presumably drawn like this by choice rather than by lack of other drawing material (Weissová, 1998).

Looking at these pictures one clearly sees the artistic development she underwent. Additionally, her manner of drawing is not only a direct expression of her emotion; one can also analyse it on the level of her artistic composition. She grew from a childlike manner of drawing and using plenty of colour, to expressing herself in black and white, which artistically speaking is much more mature and suited to express the emotional content that accompanies the compositional content of her drawing. As an artist, at the age of 14, Helga seems able to regard the viewer's position and use her artistic skills to manipulate the emotional effect which the drawing conveys. Despite the obvious deprivation of camp life, Helga was able to grow in her artistic development and in her ability to use colour, or the omission of such, to increase the dramatic and emotional effects which the drawings elicit in the viewer. On the one hand, this is interesting to observe from a developmental perspective. On the other hand, it makes it increasingly difficult to distinguish her actual emotion and experience conveyed in the picture from the emotion she, being an artist, intended to elicit in the viewer.

Strikingly noticeable throughout her drawings is that Helga never depicts herself. The drawings are embedded in a journal, where she also chronicles her experiences, yet she clearly seems to put herself in the role of the observer. Almost like a reporter, rather than the author of a diary, she records life in Theresienstadt. By not putting herself in the pictures she psychologically distances herself from the situation to some extent, whether intentional or not remains unknown. By drawing what she sees and factually recording the situation, Helga can emerge to the empowering role of an observer rather than a victim. Nevertheless, one would have to interview her as a child to understand if she consciously experienced this effect and if it provided any strength while enduring the situation of life in the ghetto.

So in the end, one can only hypothesise, if not speculate, about the experience and emotion that Helga really felt during the making of these drawings. If she had died in the camps, she would have been almost as strange to us as the primitive people who drew in the caves of Lascaux. But she survived, became a professional artist and reflected upon her own drawings. They were exhibited many times, all over the world, and in an interview she once remarked: 'now I see I saw more than I saw' (cited in Goldberg, 1992). Her drawings became a testimony of the war and remind us of the horror inflicted on millions of people. In a sense, today she resembles us, the viewers of her drawing, more than the girl she was in Theresienstadt, which brings us to the interpretation of these drawings and its limitations.

Interpretation of the drawings and its limitations

Drawing grants access to a wide range of emotions. It has been indicated that by re-connecting to memories through e.g. drawing the memory of home, children are able to re-connect to the positive emotions associated with the depicted scene (Selzer & Reifler, 1982). We have already noticed that the (parental) home was a frequently used theme in the drawings children made in Theresienstadt and this resulted in pictures that were also an idealisation from their real – pre-war – housing situation.

5. Memories of Home by Marianna Langova, died in Auschwitz aged 12

Notwithstanding prolific artists as Helga, on first sight many of the Theresienstadt drawings are ordinary children's drawings in terms of age-related technical and compositional aspects. Most of them are even comparable in thematic choice; the children in Theresienstadt still tended to depict butterflies, houses or princesses, for instance, just as any child growing up would do (Pariser, 2008).

Literature suggests several ways for the (psychological) interpretation of children's drawings and what information there is to gain from drawings. For example, the amount of detail in a child's drawing is associated with intelligence (Kellogg, 1970). Generally it is assumed that from the age of seven onwards children are able to consciously convey their emotion and experience into their drawings (Gardner, 1980).

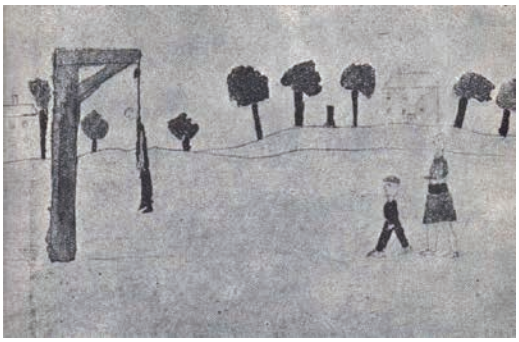
This article restricted to the use of drawings which originated in Theresienstadt and were produced by children older than 11 years, thereby ensuring that those children were in fact able to convey their emotion and experience into the drawing. Picard, Brechet, and Baldy (2007) stated that, from the age of 11, children are actively concerned with the expressive qualities of their drawings and they learn to utilise drawing as an effective way of emotional expression. Psychologists can then regard those drawings as material to learn about the child's emotional as well as developmental state despite the deprivation of the concentration camp.

Child art has been described as 'documents that reveal child personality' (Lowenfeld, as cited in Kellogg, 1970) and one can regard the children's drawings as efforts to express personal experiences and problems. This encourages evaluating the possible information on the child's experience and developmental process which lies in the Theresienstadt drawings. At the same time, the situation in Theresienstadt stands apart from everything that is considered 'normal' or standard in development. This will have consequences for our interpretations, regarding the limitations this approach is subjected to, such as little option for comparison and the inability, in retrospect, to adequately interpret different influential factors which affected the child. The following is an example of what a contextual interpretation of children's drawings could look like.

For depicting emotion in drawing, literature suggests that children adhere to different styles (Picard et al., 2007). Literal style, hereby, refers to the use of literal cues e.g. facial expressions, such as drawing a smiling face onto the sun, or drawing over-sized tears. Content style refers to the use of content to express mood and emotion, such as depicting a fruit laden tree on a sunny day, in order to achieve a happy and carefree atmosphere (Picard et al., 2007). In this picture of a butterfly one can notice the supposedly happy and carefree symbol of a butterfly in a yet rather gloomy, bad weather atmosphere. Is this a coincidence, is it intentionally made this way or is the gloomy atmosphere something we (as viewers) add to the drawing?

6. Butterfly by Doris Weiserová, died in Auschwitz aged 11

In their study Picard et al. (2007) stated that younger children tend to use a literal style in drawing. As children mature in age the use of literal cues decreases whereas their use of content or abstract style increases. The application of both styles becomes evident in the Theresienstadt drawings, such as the butterfly drawing shown above but also in one child's depiction of an execution scene, which is an example for conveying experience and emotion through content. It represents the situation of the concentration camp as witnessed through the child's eyes. However, seeing that Theresienstadt is such an extraordinarily traumatising situation the previously compiled information is difficult to apply to the children's experience of imprisonment in the ghetto. Ultimately one cannot be certain about the children's true experience.



7. Drawing by an unknown child

Subsequently, there are a number of limitations for applying the psychological knowledge that has been mentioned to drawings made in Theresienstadt. Psychologists can hypothesise but ultimately cannot form concrete theories as one can no longer interview the children on their experience. Ultimately we cannot know which factors precisely influenced the children to draw and how the very act of drawing affected the children. We can postulate hypotheses but we cannot test those and that of course limits the psychological work in interpreting the drawings. Ideally, for psychological work, we would test the effects of war on the children and the extent to which the effect shows in their drawings in an experimental setting, with a control group, but of course after so many years this is not possible and no studies regarding the children's experience and their drawings were conducted shortly after the war.

It remains difficult to draw conclusions about the child's experience from the contents he or she chose to depict. But then again, it is almost impossible not to interpret the drawings, even if we cannot be sure about the reliability of these interpretations.

As a matter of fact, sometimes the interpretations we postulate today might even be to the dismay of the (child) artist. One of the authors of this article managed to arrange an interview with Helga Weissová's friend and fellow Theresienstadt survivor Michaela Vidlaková. The interview took place on 24 January 2012. Mrs. Vidlaková came to Theresienstadt in December 1942 as a six-year-old child and remained there until its liberation.

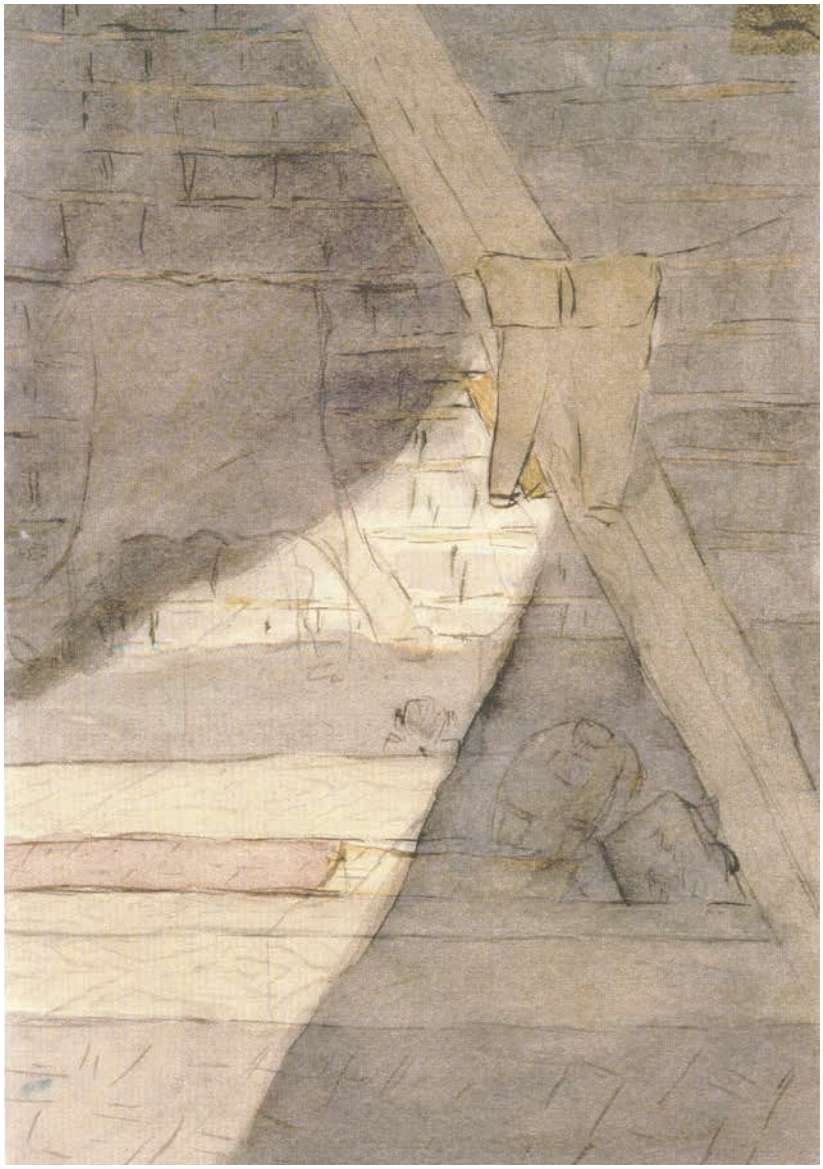
Mrs. Vidlaková stated that Helga was not content with the interpretations made about her drawings. She felt that the psychologist's interpretation was somewhat over the top. However, being a shy person and not wanting to jeopardise the upcoming publication of her book, she remained silent about it (personal conversation).

Mrs. Vidlaková also talked about her own experience with one of her drawings she made as a young child in Theresienstadt. She had been very close to her father and the two shared a melody which they used to whistle in order to recognise each other. One New Year's Eve while in Theresienstadt, Michaela drew a picture of a tree with a blackbird and some musical notes, trying to represent this melody that father and daughter used to share. Her father immediately knew what she intended with her drawing. However, after the war, her mother, who was an educationalist, wrote a paper about that very drawing of her daughter. The mother interpreted the bare branches to symbolise the child's deprivation and depression in Theresienstadt and she even claimed the arrangement of the branches resembled a swastika. The child's simple and innocent intention was to remind her father of that close bond they shared and the melody they whistled to each other. Despite this, her own mother faultily misinterpreted her daughters drawing, which lets one grasp the difficulty of interpretation regarding the motivation behind a drawing.

It is tempting for the viewer to interpret deprivation and depression in Theresienstadt drawings, considering the context in which they originated and the knowledge about the suffering that the children had to endure. But what should we conclude when the maker of a particular drawing – in this case Mrs. Vidlaková – does not recognise its interpretation or even denies it? Should we then conclude that it is only a child's drawing after all, no matter what her mother tends (or we tend) to see in it? May we assume that Mrs. Vidlaková knew precisely what her intentions were when she drew the picture for her father, or should we consider the possibility that she was, at the same time, sending other messages on a more implicit, unconscious level? In the interview Mrs. Vidlaková stated that it can be very faulty trying to interpret something on the basis of a child's drawing without knowing the child's actual intention behind the drawing (personal communication). This seems very reasonable, but may we presume that she still knows what her intention was as a child while making her drawing? Are (our) intentions completely transparent? In fact art historians acknowledge that artists are sometimes unaware of the meanings they put into their work (Freeland, 2001). One could even raise the question: is it possible to draw in Theresienstadt without leaving traces, one way or the other, of the circumstances of that particular situation?

So we cannot hide behind the fact that we no longer have the opportunity to interview the Theresienstadt children on their experience and intention behind the drawings and so all that is left is speculation and academically reasoned hypotheses. Luckily, psychologists are able to gain at least some insights into the child's development and the artistic expression which the child was able to convey into the drawing. In those cases where several pictures by one child can be compared over the span of time, such as with Helga Weissová's drawings, one can see the artistic development the child underwent, despite the hardships of life in a concentration camp. Abilities, such as drawing in perspective, start to develop during adolescence and are considered a mark of sophisticated artistic development (Hermelin, 2001). This ability, however, is not necessarily achieved by all people, as most children stop drawing before achieving those skills. But the children in Theresienstadt attended art classes and became familiar with some techniques and some of the children whose drawings remained were obviously artistically talented and had both an internal and an acquired affinity for drawing. One can interpret their artistic development and use of artistic expression despite the traumatic situation they endured and despite the depriving circumstances. To demonstrate this, look at the drawing shown in picture 8.

It impressively shows the child's addition of careful shading and light, which would not be necessary if the child's only intention was to factually depict a situation (Ginz, 2007). The artistic expression and mastery become obvious. The same applies to the aforementioned drawing *The last farewell* (picture 4). At the age of 14, Helga seems to be able to regard the viewer's position and utilise her artistic skills to manipulate the emotional effect which the drawing conveys. This shows the development she underwent in Theresienstadt, her increasing artistic mastery and overall psychological development,



8. Theresienstadt dwellings (1942-1944), by Petr Ginz, died in Auschwitz aged 16

while at the same time it conveys her growing sense of depression and deprivation.

When concentrating on a contextual interpretation, interpretations of those drawings from a psychological perspective will, in the end, remain theoretical and fundamentally disputable. However, knowing that these drawings were made in Theresienstadt makes it almost impossible (if not foolish) not to interpret them in the context of the experiences of the camp. Representing scenes of life in the ghetto through the eyes of children, they remain a very valuable artefact.

Expressive testimonies of the past

In the preceding it has been shown that children possess strategies to express psychological mood in drawings. Even though further investigation of the material is required indicating cues and indices for interpretation of drawing strategies and representational topics (Picard et al., 2007), it has been demonstrated that at least some of the children in Theresienstadt were able to utilise the expressive qualities of art which can be understood in a way comparable to expressing oneself through keeping a diary. In this sense the Theresienstadt drawings can be regarded as visual diaries. The children captured and visualised what they perceived around themselves, giving the viewer a unique insight into life in the concentration camp, as seen through the eyes of the children. The drawings reveal informational cues on everyday life in the ghetto in an unchanged and memory-independent manner. They provide a unique impression on the identity and individuality of those children, on how they managed to cope and maintain their identities in this extraordinary war situation.

However, these drawings also confront us with interpretational problems that are hard to solve in a definite way. For instance, it may surprise us that even under the harsh circumstances of the ghetto; the children still drew the 'innocent' picture of idealised homes, butterflies and princesses. One might interpret this as typical for girls, and indeed, drawings of boys often circle around other topics, such as violence and death. But then, in the art classes children were quite often encouraged to draw about home and fairy tales.

Stargardt (1998) noticed that drawings of everyday life in Theresienstadt were in fact a minority of the totality and that these drawings fell into the category of what he labels 'free drawing'. They were quite often made outside the classes, only with pencil and paper (instead of watercolour paint), which might in fact be partly responsible for their austere character.

9. Everyone was hungry by Liana Franklová, 10 years old, died in Auschwitz 19 October 1944

These 'free drawings' reflected what the children saw in the ghetto, varying from pictures of the food distribution to the hanging of prisoners. Stargardt adds that this was the same with boys and girls, so it seems that outside the guided classes, picturing life in the ghetto was inevitable.

We saw that Helga Weissová deliberately chose to draw everyday life and her artistic abilities made it possible to use dramatic effects. The question on what exactly Helga's intentions were still remains. Did she withdraw from painting 'innocent' pictures to please her father, after his suggestion: draw what you see! Maybe, but as we stated earlier, it is rather difficult to extract one unique intention from these drawings. But for the viewer it is almost impossible not to accept these drawings as testimonies and artefacts of the Holocaust, and as such they also enable us to study the emotion they elicit in the viewer.

While most of the children did not live to tell their stories, their drawings remained and today serve as a testimony of those children's experience in the ghetto and of the life of Jewish children during the Holocaust. This makes them interesting for interpretation from both a historical and psychological perspective, and above all demonstrates the emotional and human value which lies in these invaluable children's drawings.

The special value of these drawings also lies in their unchanged and permanent character, making them especially interesting for historical and psychological analyses. Today we only know about the lives of concentration camp inhabitants through the stories told by survivors and by filmed and photographic material which mostly originated *after* the liberation of the camps. Survivor's testimonies ultimately always rely on the individual's memory. But memory becomes frail and porous over the course of time (Wagenaar & Groeneweg, 1990). Those drawings, however, provide unique insights into the children's experience without relying on individual memory, thereby remaining stable and constant over time. They were produced inside the camps and not after the liberation, unlike most other visual evidence remaining today. This shows the unique character and interpretational value they provide for psychological examination and access to the child's experience enduring the traumatising imprisonment in a concentration camp. Even though we can never be sure what the children in Theresienstadt exactly experienced, felt and thought, we may safely assume that they drew what they saw, felt and thought. And with that, in a way, they outlived the camps. Or to use the words of Vaclav Havel: 'The gentle traces of the children in the Terezín concentration camp continue to be, by their scope and impact, an expressive testimony in our day'.

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DEBORAH GRISSE
Psychologist in medical psychology at the Herz- und Diabeteszentrum NRW, Bad Oeynhausen, Germany. Her research interests include trauma and art psychology as well as the implementation of art for psychotherapy in medical and developmental psychology.

GERRIT BREEUWSMA
Assistant professor in Developmental Psychology, Heymans Institute of Psychology, University of Groningen. His research interests include the theory and history of developmental psychology, war from the perspective of the child and art psychology.

Psychometric properties of the TLC and the TLC-SR

Tools identifying the individual risk profile for trauma, multiple loss and radical change

The accumulation of the risk factors traumatic event, multiple loss and relocation heightens the risk for development of longstanding problems and disorders as well as severe follow-up difficulties in health and social participation. It seems reasonable to assume that accumulation of different risk factors yields a high-risk patient profile. The existing healthcare for these individuals has many pitfalls and there are clear indications that the regular care can be systematically improved. There are no standardised instruments for the identification of this risk profile even though they are much needed for fundamental research and treatment evaluation. In this study the TLC, a structured interview for mental health care professionals, and the TLC-SR, a self-rating questionnaire for adults, are tested for reliability and diagnostic accuracy. Both instruments were designed to identify the individual risk profile for the factors trauma, loss and radical change in environment, the accumulation of these risk factors over time, and the estimated impact on the individual's current daily functioning.

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Author: Wilmar Knigge* and Harke Bosma**

*Lentis, Welnis Department Winschoten, the Netherlands,
**Department of Psychology, University of Groningen, the Netherlands

Correspondence to:
Wilmar Knigge, Lentis, Welnis Department Winschoten, PO Box 286, 9670 AG Winschoten, the Netherlands,
e-mail: mw.knigge@lentis.nl

The accumulation of the risk factors trauma, multiple loss and relocation heightens the risk for development of longstanding problems and disorders, as does repetition of these risks (e.g. Armenian et al., 2000; Galea, 2007; Ten Hove, 2002; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Salcioglu, Basoglu, & Livanou, 2003; Yzermans, Donker, Kerssens, Dirkzwager, Soeteman, & Ten Veen, 2005). This is in line with outcomes of research on cumulative stress and multiple risks and transitions during the lifespan, and widespread illnesses such as cancer and heart diseases. Effects of stressors and risks are cumulative and increase the probabilities of negative outcomes (Masten & Coatsworth, 1995; Van de Willege, Ormel, & Giel, 1995; Schnurr & Jankowski, 1999). Often this accumulation of risks leads to severe follow-up difficulties in health and social participation, due to overburdening, withdrawal and failing health care strategies (Seiffge-Krenke, 2004; Van Minnen, 2008).

This accumulation of the risk factors trauma, loss and relocation is widespread: on a large scale after disasters or due to the context of terror in war, and on an individual scale as a result of sexual or domestic violence, after fire or accidents etc. For example, in the firework disaster in Enschede in 2000, 1000 people were injured and 1200 residents were forced to relocate for years (Dirkzwager, Grievink, Van der Velden, & Yzermans, 2006). The life prevalence of domestic violence for Dutch civilians is 40%. Almost one third are confronted with a radical change in their lives because of this. Also, in mobile groups such as asylum seekers and refugees, many are confronted with the accumulation

of risks because of the combination of trauma, loss and relocation (Herman, 1993; Knigge, 2007; Silove, 1999).

Our assumption is that in clinical practice the scope of multiple risks and a related coherent treatment approach is lacking; only small parts of the problems are addressed. This is due to the organisation of the health care system and the lack of a description and recognition of the complex constellation of problems in context as a whole. The same seems to be true for treatment evaluation. Little is known of the characteristics of individuals with these cumulated risks and their symptoms and how these are related to resilience, severe disorders and effective treatment.

The regular care for this multiple risk group has many pitfalls. One very important pitfall is the absence of effective treatment for a substantial part of this group. The need for help is clear (Van Minnen, 2008), and if people do not get help in time it can have severe consequences. Ongoing posttraumatic stress disorder (PTSD) has a devastating effect on intimate relationships and social role fulfilment, such as functioning as a parent or as an employee (Kulka et al., 1990). Laban, Gernaat, Komproe, Van der Tweel, and De Jong (2005) found that asylum seekers got worse with time spent in the Netherlands (more PTSD, more depression). This also has severe physiological consequences (Dirkzwager et al., 2006; Schnurr & Jankowski, 1999).

The absence of effective help has, according to earlier research, different grounds. People do not get help but instead withdraw themselves, merely surviving a very difficult situation (Cordova, Walser, Neff, & Ruzek, 2005; Seiffge-Krenke, 2004). Bean (2006) found that refugees with PTSD or depression are not adequately referred to the mental health care system. Furthermore, often the evidence-based treatment of PTSD and depression is not offered because there is a lack of stability in these patients and a lack of courage and competence in their mental health care professionals (Van Minnen, 2008). In that case, the regular treatment does not provide sufficient help; Dirkzwager et al. (2006) found longstanding problems in spite of the offered care for people with the shared risk factors trauma, multiple losses and relocation.

In sum, there are good indications that the regular care can be systematically improved by treatment evaluation and fundamental research from the perspective of a risk profile. It seems reasonable to assume that accumulation of different stress factors yields a high-risk patient profile. Although the relevance of these cumulated risks is recognised and acknowledged in research and clinical practice, there are no instruments to identify the individual risk profile.

To this end, the TLC, a structured interview for health care professionals, and TLC-SR, a self-rating questionnaire for adults, were developed to identify this risk profile and make it visible and better known (Hofstra, 2006; Tovote, 2008). Although most mental health experts are trained or trainable to discriminate these risk factors quite well, they rarely do this systematically, because indications for this risk profile are not yet part of the standard intake interview. Standardised instruments tested on their reliability and accuracy could improve this by efficiently providing objective, repeatable and detailed information on individual risk profiles that can be used for treatment evaluation and fundamental research.

Both instruments were designed to identify the risk profile on the risk factors Trauma (T), multiple Loss (L) and a radical Change in environment (C), the accumulation of these risk factors over time and the estimated impact on the individuals' current daily functioning. These studies were initiated by the Expert Centre PTSD of the Foundation of Mental Health Care (GGZ-Winschoten) in cooperation with the Psychology Department of the University of Groningen in the Netherlands, in order to determine the incidence of the accumulation of three risks among new incoming clients in six mental health institutions in the north of the Netherlands. The percentages of clients with an accumulation of three risks ranged from 24 to 60 in these institutions (Knigge & Bosma, 2006). These rather robust findings may confirm the relevance of the subject.

The aim of this study is to report on the psychometric properties of the TLC and the TLC-SR. Research questions are to estimate the reliability and the diagnostic efficiency (sensitivity and specificity) of the TLC and the TLC-SR. We expected that all these studies would result in findings supporting the reliability and the validity of both lists.

Method

Participants

TLC studies: The population for the interrater reliability study was defined by new incoming clients in five mental health care institutions. The data concerned paired (2 or 3 raters) ratings of 10 cases per institution: n = 50 cases and n =2 x 10 + 3 (3 x 10) = 110 paired ratings represented by their paper intake reports which were randomly selected.

The ratings for the sensitivity and specificity studies (n = 10 x 10 = 100 and the test-retest study (n = 2 x (10 x 10) = 100 paired ratings) were also based on intake reports of randomly selected cases. Inclusion and exclusion was based on the completeness of the reports, not on presenting symptoms. Data collection of the interrater reliability and test-retest studies took place before the comparison of the TLC with the reference ('gold') standard.

Response in the interrater study was 94% / 97% (n = 47 and 107 paired ratings): All data were complete and collected according to procedure except for one institution; here 7 instead of 10 cases were selected. Response in the studies on sensitivity and specificity and the test-retest reliability was 100%.

TLC-SR studies: For the test-retest of the Dutch and English versions of the TLC-SR, first-year students, Dutch as well as international, participated. For the latter group the English version was used. Response: 48 (80%) Dutch and 53 (88%) English complete sets of lists, both out of 60 participants.
Since university students form a highly selective population, a second test-retest reliability study of the TLC-SR was done with a broader, more general sample, namely, a sample of patients of a general practice in the Netherlands (n = 118). The TLC-SR was administered twice with an interim period of at least two weeks. Most patients during a selected period participated. Response of the first measurement: 112 of 118 respondents (95%). Response of the second measurement: 75 of 112 respondents (67%).

For the index-reference standard test (TLC-SR - TLC), 75 clients from five different mental health institutions and their mental health care professionals participated. The sample comprised 51 female and 24 male clients with an age range of 17 to 61 (M = 41).

The instruments

The TLC and TLC-SR were designed to identify the risk profile for the factors trauma, multiple losses and a radical change in environment, the accumulation of these risk factors over time and the estimated impact on the individual's current daily functioning. Both instruments are aimed at the general research population of adults, with the inclusion criterion of 18 years of age and older. It is based on the scientific literature concerning its central concepts and the clinical experience of the first author. A concept list was presented to experts with comprehensive and substantial knowledge of research or treatment of multiple risk groups to ensure the content validity of each item on the list. They also advised about the format of the questions and answers.

As part of the construction process, rater teams of the GGZ-Winschoten consisting of a psychiatrist, a psychiatric nurse and clinical psychologist, gave TLC ratings of 10 clients on the basis of their written case reports. Cyclic testing of the interrater reliability was done with four consecutive teams. Discussion of the disparities between raters led to refinements of the written instructions and list. An unequivocal instruction manual resulting in sufficient interrater reliability was devised by the fourth team. This final version was used in subsequent research.

The list comprises four questions. The first three are short questions about whether the subject has had experiences in the area of trauma (1), multiple loss (2), or radical change of environment (3), each with sub-questions on how long ago these events took place. For the definition of the traumatic experience, the DSM IV definition was used and all items are illustrated with concrete examples. The three questions can be answered with 1. *Yes* with added checkboxes for the time period (*more than 5 years ago; 1-5 years ago; within the last year*), 2. *No, never*, or 3. *No information available*. The fourth question is whether, in the opinion of the rater, these experiences (questions 1-3) are still affecting their client's current daily functioning (4), with preprinted answers on a Likert scale (1 *Not at all*, 2 *A little*, 3 *Somewhat*, 4 *Quite a lot*, 5 *Very much*).

On the basis of the TLC and the consultation of some experts, a self-rating version, the TLC-SR, has been developed in a Dutch as well as an English version. The latter version was translated back and forth from the Dutch version by an official interpreter (Tolk en Vertaalcentrum Nederland). The TLC-SR comprises the same four questions. The first three are short questions about whether the subject has had experiences in the area of trauma (1), multiple loss (2), or radical change of environment (3), each with sub-questions on how long ago these events took place. The response categories are: 1 *No, never*, 2. *Yes, more than five years ago*, 3 *Yes, 1-5 years ago*, 4 *Yes, within the last year.* The fourth question is whether, in the opinion of the subject, these experiences (questions 1-3) are still affecting their current daily functioning (4), with preprinted answers on a Likert scale (1 *Not at all*, 2 *A little*, 3 *Somewhat*, 4 *Quite a lot*, 5 *Very much*).

In order to be able to differentiate between different types of trauma, one question was added to the TLC-SR: Whether the traumatic experience was *a one-time experience, a repeated experience*, or *a repeated experience that occurred for a long time* (4). For technical reasons the response category does not apply was added to question 2. Both the TLC and the TLC-SR have an addendum with definitions and examples of the three events (see Appendix).

Scoring the TLC and TLC-SR: All of the items are scored separately. The responses to the three main events in combination with the period of time indicated generate a multiple risk profile per subject with an estimation of the impact the events have on actual daily functioning. Results can be used for clinical practice or treatment evaluation. Furthermore, different types of groupings can be discriminated according to the context in which the results are needed, for example related to treatment evaluation, incidence measurement of a certain risk profile or fundamental research.

Procedure

TLC: Interrater reliability: The interrater reliability was tested on the level of actual applied settings. The raters in this study were mental health care professionals with various disciplinary backgrounds. Two or three raters per institution were trained in the use of the checklist until the interrater reliability was satisfactory. Differences in intake procedures and context of institutions became clear and some additional instruction was given. In every institution ten cases were scored by two or three raters and these data were used to establish the actual interrater reliability.

TLC: index-reference standard and the test-retest study: There is no screening device for the identification of the risk profile for the risk factors trauma, multiple losses and radical change in environment. The 'gold standard' (Bossuyt et al., 2003, Steiner, 2003) used to identify this risk profile for individuals is the mental health expert's rating based on a clinical interview. For a first check of the sensitivity and specificity, the index test ratings gathered with the TLC on the ten cases by instructed raters - ten mental health care professionals - were compared with each other (interrater reliability) and with the reference standard, the 'expert' rating of a clinical psychologist with ample diagnostic experience with clients with a multiple risk profile. Her judgment was seen as the 'gold standard' and used as the reference standard for the TLC ratings. All raters were blind to the results of the others.

For the test-retest reliability of the TLC the same ten mental healthcare professionals rated these ten cases twice with an interim period of at least two weeks. The ratings of the different raters were compared with each other (interrater reliability) and with themselves. Using the intake reports again in the second measurement ruled out possible intervening differences in treatment, and comorbidity due to measurement at different times.

TLC-SR: index-reference standard and the test-retest study: For a first check of the sensitivity and specificity, the index test ratings gathered with the TLC-SR on 75 clients of mental health institutions were compared with the reference standard, the outcomes of the TLC gathered from their mental health care professional. The TLC outcomes are seen as 'the 'gold standard' and used as the reference standard for the TLC-SR ratings. All raters were blind to the results of the others.

Using the SONA system of the Department of Psychology of the University of Groningen, questionnaires can be answered online. The study was approved by the Ethics Committee of the Psychology Department. After a small pilot, the TLC-SR was adapted to a clear and unequivocal online Dutch and English version without changing its content. Participation of first-year students in research is obligatory in exchange for study points. The students can choose from a list of projects. They must sign an informed consent form. The TLC-SR was administered twice with two weeks in between. Participation for both the Dutch and the English research version was limited to 60 and this number was reached within a few weeks.

A second study of the test-retest reliability of the TLC-SR was conducted among patients in a general practice. The study, already approved by the Ethics Committee of the Department of Psychology, was also approved by the Ethics Committee of the Department of Medicine. Participation was voluntary. Prior to the research, patients were informed comprehensively about the purpose and procedure of the study by the practice assistant and by written information. An informed consent was signed before participation. The TLC-SR was administered twice with an interim period of at least two weeks.

Data analysis

Following the advice of Uebersax (http://www.john-uebersax.com/stat/raw.htm) the proportion of agreement between raters, between the test and retest scores, between index and reference ratings and between the expert rating of the TLC and the layman rating of the TLC-SR was used as the main index. These proportions were computed with Excel. The higher the average agreement for the main items the better. An agreement > .90 is considered very good, $.80 < p < .90$ as good, and $.70 < p <$. 80 as acceptable. In the sensitivity and specificity study of the TLC the interrater reliability was first computed, as this being acceptable was a necessary condition for the validity study. The question concerning the impact was scored differently. The distance between raters in their ratings on the five-point Likert scale was computed; the lower this distance the better. All agreement and distance data were tested with resampling techniques (Kline, 2004) on the probability that the results occur if the ratings were randomly assigned. Random assignment was simulated by means of random permutation tests (Poptools, Monte Carlo simulation). This procedure

enables one to compute the exact probability (p value) that the results occur by chance, even in small samples.

Results

TLC: Interrater reliability

The interrater agreement across institutions for the three main items (events) and the related three time periods ('how long ago') is given in Table 1. For these results all ratings were pooled across institutions.

Table 1 Interrater reliability across institutions in percentage agreement

	Agreement	
TLC item	**Event**	**Time period**
Trauma	.95	.89
Loss	.91	.79
Change	.89	.79
Overall[a]	.92	.82

[a] Overall is across the three items. All values are significant $p < .001$

The percentages of agreement range from almost good to very good. Overall the interrater reliability of the TLC items is very good, and the overall reliability of the time period is good.
For the reliability of the impact of the events, the interrater distances were computed. The mean distance across all ratings was 0.88 ($SD = 0.80$), being less than one scale score. This mean has a probability of $p = .003$ of occurring by chance. The impact interrater reliability was also good.

TLC: Test-retest reliability

The results of the test-retest study are given in Table 2. The agreement was computed across 10 x 10 = 100 paired observations.

The overall agreement for the main questions was .87 and for the time period .81, which indicates good test-retest reliability. The mean distance for the estimated impact was 0.64 ($p < .001$, $SD = 1.06$), which is small, indicating a good test-retest reliability.

Table 2 Test-retest reliability in percentage agreement

	Agreement	
TLC item	**Event**	**Time period**
Trauma	.89	.89
Loss	.85	.83
Change	.82*	.72
Overall[a]	.87	.81

[a] Overall is across the three items. All values are significant $p < .001$, except $^*p = .003$

TLC: Sensitivity and specificity

Following Streiner (2003) the *sensitivity*, which is the proportion of the cases with trauma, loss or change correctly identified by the TLC, and the *specificity*, which is the proportion of the cases without the attribute, was computed. This is only meaningful if the interrater reliability of the TLC raters is acceptable. The first three columns in Table 3 show (highly) significant interrater agreement values.

The TLC identifies almost all the cases with trauma. Its sensitivity to change and loss is (very) good. Its specificity for trauma is also good. Although it correctly identifies significant numbers of cases without loss and change, it also identifies a considerable number of false positives and negatives in these domains (Table 4).

TLC-SR: Test-retest

The percentage agreement in Table 5 was calculated per item across event and time period. The table gives the results of the TLC-SR test-retest adult studies; with students, using both the Dutch version and the English online version, and with the general practice patients, using the paper and pencil version.

The percentage agreement for the test-retest study ranged from acceptable to very good, with one

Table 3 Results of comparison of TLC and reference standard

TLC	Ia	SD	P	Se	SD	P	Sp	SD	P
Trauma	.93	0.07	<.0001	.97	0.07	<.001	.88	0.18	<.0001
Loss	.76	0.15	<.0001	.80	0.24	<.0001	.60	0.46	<.001
Change	.81	0.12	=.0022	.91	0.08	=.0014	.40	0.46	=.0013

Ia = proportion interrater agreement; *Se* = sensitivity; *Sp* = specificity

Table 4 How the TLC identifies the expert scores

TLC	TP	TN	FP	FN
Trauma	58	35	5	2
Loss	64	12	8	16
Change	73	8	12	7

N = 100; *TP* = true positives; *TN* = true negatives; *FP* = false positives; *FN* = false negatives

Table 5 Test-retest reliability of the TLC-SR in percentage agreement

	Students online		GP patients Paper-and-pencil
TLC-SR	Dutch (n=48)	English (n=53)	n=75
Trauma	.85	.85	.90
Loss	.81	.72	.88
Change	.75	.67	.90
Type of trauma	.85	.90	.86
Overall[a]	.82	.79	.89

[a] Overall is across the first three items. All values are significant $p < .001$

Table 6 Results of comparison of TLC-SR and reference standard

TLC-SR	Ia	p	Se	P	Sp	P
Trauma	.80	<.001	.91	<.001	.47	<.001
Loss	.87	<.001	.94	<.001	.58	<.001
Change	.77	<.002	.85	<.001	.56	<.002

Ia = proportion interrater agreement; *Se* = sensitivity; *Sp* = specificity

Table 7 How the TLC-SR identifies the TLC scores

TLC-SR	TP	TN	FP	FN
Trauma	51	9	10	5
Loss	59	7	5	4
Change	50	9	7	9

N = 75; *TP* = true positives; *TN* = true negatives; *FP*= false positives; *FN*= false negatives

exception for change. In general the reliabilities of the online version of the TLC are somewhat lower than the reliabilities of the paper and pencil version. The mean distance on the impact score was 0.52 (*SD* = 0.74) for the Dutch and 0.77 (*SD* = 0.93) for the English online version. Both means are significant, $p < .001$. The mean distance on the impact score of the general practice patients was 0.26 (*SD* = 0.60), which is very small and significant ($p < .001$).

TLC-SR: index – reference standard test

All the results in Table 6 are significant ($p < .01$). The agreement between both instruments is satisfactory. The TLC-SR identifies almost all the cases with trauma, change and loss. Its specificity is not as good. Although it correctly identifies significant numbers of cases without trauma, loss and change, it also identifies a considerable number of false positives and negatives in these domains (Table 7).

Discussion

The TLC is a structured interview for mental health care professionals designed to identify the risk profile for the factors trauma, multiple loss and a radical change in environment, the accumulation of these risk factors over time and the estimated impact on the individual's current daily functioning. There is a paper and pencil version and an online computer version of the TLC. The paper and pencil version has been tested and proves to be a valid and reliable instrument; the content validity has been secured by experts, the test-retest reliability is good and in general the interrater reliability of the TLC is very good. Its diagnostic efficiency, tested in a small clinical sample, is good.

With the TLC-SR the applicability and relevance of these tools has been increased. The TLC-SR (Dutch and English version) was developed as a self-report version of the TLC, as a computer tool, in Dutch and English, and as a paper and pencil version in Dutch. With the self-report version, the risk profile and multiple risk profile groups can be identified directly without the help of healthcare professionals. The TLC-SR proves to be valid and reliable. The sensitivity is good, but the specificity is not as good. The test-retest reliability with students is satisfactory, and the test-retest reliability of the TLC-SR assessed in a broader sample of the Dutch population is very good. The sample of general practice patients is not completely representative for the Dutch population in general. In our opinion, however, the TLC and TLC-SR are reliable and valid enough to be used in clinical samples, as they are sensitive instruments.

However, in samples in which the rate of traumatic experiences, multiple loss and radical change is much lower, the sensitivity and specificity of the TLC and the TLC-SR are probably different (Streiner, 2003). For use as a screening instrument for epidemiological research it is important to know that there is a tendency of over-reporting multiple loss and radical change. Therefore, further research with non-clinical samples is necessary.

Conclusion

The TLC and the TLC-SR are reliable and sensitive instruments to identify the individual risk profile for the factors trauma, multiple loss and a radical change of environment. The applicability of the instruments is best in clinical samples facilitating treatment, treatment evaluation/innovation and fundamental research.

The accumulation of the risk factors trauma, multiple loss and radical change of environment is widespread and heightens the risk for development of longstanding problems and disorders.
Little is known of the characteristics of individuals with these cumulated risks and their symptoms and how these are related to resilience, severe disorders and effective treatment. It seems reasonable to assume that accumulation of different stress factors yields a high-risk patient profile. There is good reason to assume that regular care from the perspective of an individual risk profile can be improved with systematic studies.

The TLC and TLC-SR were developed as a first step to identify this risk profile group to make it visible and better known. These instruments are also useful in clinical practice to identify the individual risk profile and to facilitate a more complete and coherent approach. Note that a high-risk profile is not synonymous with problems or disorders. Specific knowledge about these patients in combination with the analysis of the effects of offered care could improve the regular care in a systematic and fundamental way.

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WILMAR KNIGGE
A clinical psychologist and psychotherapist working in the Mental Health Care Institute Lentis and in private practice, and a PhD candidate in Developmental Psychology at the Heymans Institute of Psychology, University of Groningen. Research interests include: PTSD, healthcare innovation concerning the effects of accumulation of trauma, multiple loss and radical change of environment

HARKE BOSMA, PHD
External member of staff of the Department of Psychology, University of Groningen, teaches Principles of Development and Developmental Psycholopathology at the Postmaster Psychology and Special Education Institute of the University of Groningen. His main research interest is identity development in adolescence.

Appendix TLC-SR English online version

Some people may experience shocking events, great losses and a radical change of their immediate environment all in the same period. This may even be triggered by a single event. You are then suddenly faced with tremendous adversity. For example, experiencing a car accident where you also witness the death of your partner. This is a traumatic event, with many consequences. There is also loss, not only of your partner, but possibly also of your expectations for the future, your income etc., which are events that involve mourning. At the same time, the psychosocial environment may also have changed drastically, involving reorientation and adjustment to life without a partner, single parenthood, a changed position within the family and circle of friends, etc. Could you please indicate to what extent you have experienced events like this and if so, how long ago? Please tick every line. You can tick more than one answer.

Have you had any traumatic experiences?

Examples of traumatic experiences:
One-off: intimidation, assault, abuse, sexual violence, traffic accident, a disaster etc.
Multiple times: combination of traumatic events mentioned above
Prolonged repeated: incest, sexual violence, domestic violence, violence in war

1 No, never
2 Yes, more than five years ago
3 Yes, 1-5 years ago
4 Yes, within the last year

If so, did you have a one-off experience, multiple experiences, or prolonged or repeated experiences?

5 One-off
6 Multiple experiences
7 Prolonged repeated
8 Not applicable

Have you ever suffered more than one loss at a time?

For example, the loss of:
- Loved ones: next of kin, partner, child, acquaintances, pets
- Job, position: work, status, income
- Health: physical or mental
- Environment: home, native country, cultural environment

1 No, never
2 Yes, more than five years ago
3 Yes, 1-5 years ago
4 Yes, within the last year

Was there a radical change of psychosocial environment that required an above-average level of adjustment?

For example, a change of:
- Environment: change of country, language, moving to an unfamiliar area, social network
- Social position: change of social-economic position, prolonged uncertainty, poverty
- Personal abilities: change in health, ability to function

In your opinion, are these experiences currently affecting your daily functioning?

1 Not at all
2 A little
3 Somewhat
4 Quite a lot
5 Very much

Thank you for your participation.

The TLC pen-and-paper version in Dutch with instruction manual is available from the corresponding author on request.