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Police Referral to Victim Support

The Predictive and Diagnostic Value of the RISK (10) Screening Instrument

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Abstract: One of the basic rights of crime victims granted under victim-orientated legislation introduced during the last 20 years in more than 100 countries worldwide is the right to be referred to victim support by the police. The under-utilization of psychological services by crime victims who are objectively in need of external support is substantial. Current legal procedures tend to perpetuate this unwanted condition. Programs aimed at the early detection and prevention of persistent postvictimization distress are more in line with the ideals of therapeutic jurisprudence. The RISK (10) screening instrument, which was specifically developed to be administered by police officers, may provide a basis for early detection. RISK (10) consists of a selection of 10 Risk factors with prior empirical evidence and theoretical significance. The focus of the present study was to examine the predictive and diagnostic power of RISK (10) components to detect persistent future psychological distress, among other things, in terms of Adjustment Disorder. Analyses were based on a sample of 93 crime victims who participated in the police and (3 months) follow-up parts of the study. Findings provided initial validation for the predictive accuracy of most RISK (10) components, and confirm the diagnostic value (in terms of specificity, sensitivity, positive and negative predictive power) of risk factors, such as engaging in character attributions, upward comparison processes, fatalistic appraisals of the episode, and the initial reporting of expected deficiencies in social support. The clinical utility of RISK (10) for early detection in police stations is confirmed.

Keywords: Police referral, screening, victim support, postvictimization distress, AD

The idea of victims' rights has been in a more prominent position on numerous national juridical agendas since the 1980s due to the implementation of the United Nations Declaration of basic principles of justice for victims of crime and abuse of power. Victim's bills of rights are available in the United States, Canada, Australia, and in Europe the United Kingdom and the Netherlands were forerunners in introducing victim oriented guidelines. Moreover, in all these countries extensive state-sponsored victim support facilities that work in close cooperation with the criminal justice system were created (Van Dijk, Van Kaam, & Wemmers, 1999). One of the basic rights introduced worldwide is a right to psychological assistance, if needed. In most countries assistance rights are enforced in such a way that the police are held legally responsible for informing victims about support facilities in their own community. Most crime victims have their first official contact with the police, and, thus, the police are gatekeepers in referring victims to victim support. Usually victims receive relevant information through the dissemination of leaflets and brochures. From the perspective of therapeutic jurisprudence (Wexler & Schopp, 1992) such legal procedures appear to be far from ideal: Many victims who are in need of support are simply not detected by support agencies, and, thus, do not receive adequate psychological support (Boyle & Callahan, 1995; Rosenheck & Stolar, 1998; Winkel & Vrij, 1998). A recent study by Wohlfarth, Winkel, and Van den Brink (2002) revealed that more than 60% of the victims who developed posttraumatic stress disorder (PTSD) 3 months after reporting to the police did not engage in contacts with victim support agencies. A more ideal procedure would be to identify at an early stage victims who will be in need of future psychological support, for example through screening for victims who are likely to develop PTSD or emotional adjustment disorder (AD) in the process of coping with their victimization. Passing on this screening-information to victim support providers can enable them to actively approach victims in need within a few days after they have been in contact with the police. In the Netherlands, such information may be routinely gathered as part of the victim-related block of questions (e.g., Do you want to be kept informed about the developments in your case; Are you interested in receiving financial restitution from the perpetrator) that automatically pops up on the computer screen when witnesses are reporting a victimization.

The focus of the present study was to examine the predictive and diagnostic value of RISK(10), a set of 10 empirically validated and theoretically rooted risk factors contributing to a victim's trauma-susceptibility (or "personal" proneness to developing persistent traumatic memories in response to a criminal victimization) for developing emotional ADs in terms of the DSM-IV or the ICD 10 (Diagnostic and Statistical Manual of Mental Disorders, 4th Edi-

tion, American Psychiatric Association; International Classification of Diseases, 10th Edition, World Health Organization). Predictive value here refers to the univariate (an individual risk factor) and multivariate (a set of risk factors) associations of risk factors with continuous criterion measures of a victim's postvictimization distress in terms of anxiety, depression, and intrusions. Diagnostic value then refers to the predictive accuracy of these risk factors, or subsets of risk factors, in determining which victims will later develop emotional AD. In terms of DSM-IV, a victim is diagnosed as having AD with depressed mood when the predominant manifestations are symptoms such as depressed mood, tearfulness, or feelings of hopelessness. A victim is diagnosed as exhibiting AD with anxiety when the predominant manifestations are symptoms such as nervousness, worry, or jitteriness.

RISK (10) consists of 11 questions that can be answered yes or no. Each question operationalizes a risk factor, a variable enhancing the victim's likelihood of developing persistent postvictimization psychological distress. Answers to RISK (10) provide an estimate of the extent to which victims: report coping residuals (Risk 1: Coping problems relating to a recent prior victimization; Solomon, 1995; Sparks, 1981; Winkel, 1999); engage in upward expectancies (Risk 2: Perceiving the consequences of the episode as worse than was implicitly expected prior to victimization; Taylor, Wood, & Lichtman, 1983; Winkel & Renssen, 1998); engage in character attributions (Risk 3: The tendency to perceive one's own "character" or personality as a cause of the victimization; Janoff-Bulman, 1992; Winkel, Denkers, & Vrij, 1994); perceive themselves as uniquely vulnerable, or more vulnerable than similar comparison-others, to victimization (Risk 4; Perloff, 1983); feel insufficiently protected against crime (Risk 5; Lurigio, Skogan, & Davis, 1990); engage in upward coping processes (Risk 6; Perceive themselves as coping less well than similar other victims; Wills, 1981; Wood, 1996; Winkel, Blaauw, & Wisman, 1999); report that they can*not* fall back on a supportive environment (Risk 7; Frieze, Greenberg, & Hymer, 1987; Kaniasty & Norris, 1992); report low levels of well-being prior to the current victimization (Risk 8; Erdman, 1981; Winkel & Vrij, 1998); perceive the episode as life threatening or as a mental burden (Risk 9; Dohrenwend, 1998); and report physical damage (Risk 10; Marsella, Friedman, Gerrity, & Scurfield, 1996).

Conceptually, RISK(10) is embedded in the broader "duality model of traumatic memory" (Bowman, 1997; Brewin, Dalgleish, & Joseph, 1996; Brewin & Holmes, 2003; Christianson, 1992; Connor, Davidson, & Lee, 2003; LeDoux, 1998; Winkel, 1999; Winkel & Vrij, 2002; Winkel, Wohlfarth, & Blaauw, 2003), which consists of a series of duality hypotheses (see Appendix A). The dual control hypothesis, for example, suggests that persistent longer term symptomatology is likely under the condition of high initial distress (which is related to the toxic potential of the episode) combined with high (personal) trauma-susceptibility (which is defined by an abundance of personal and social risk-factors), and a deficit in resilience factors (Brewin, Andrews, & Valentine, 2000; Bowman, 1997; Ozer, Best, Lipsey, & Weiss, 2003; Yehuda, 1999). Most risk constructs involved in RISK (10) rest on solid prior empirical evidence, including evidence from the Amsterdam Prospective and Longitudinal Study (AP-LS)[1] among victims of crime (Denkers, 1996; Denkers & Winkel, 1998 a, b; Winkel, Blaauw, Sheridan, & Baldry, 2003; Wohlfarth, Winkel, Ybema, & Van den Brink, 2001). In a prospective design (in which risk factors were actually assessed prior to the current victimization), coping residuals were found to exert a longitudinal interaction effect in combination with criminal exposure (victims vs. nonvictimized controls). Thus, victims exhibiting coping residuals (see Risk 1) reported substantial postvictimization reductions in psychological well-being (2, 4, and 8 months postvictimization) and substantially elevated psychological distress (10 months postvictimization) due to victimization. Such effects did not emerge in victims not exhibiting coping residuals (Winkel, 1999; see also: Epstein, Fullerton, & Ursano, 1998). The AP-LS linked toxic dose (e.g., property-directed vs. person-directed, violent crime; repeat vs. singular victimization) and the individual's RESUS profile[2] as assessed prior to the index victimization to a broad range of deleterious outcomes[3]. Findings consistently revealed that a toxic dose—response relationship was further moderated by the individual's RESUS—profile (Denkers, 1996). Links were generally weak for crime victims exhibiting prior positive beliefs (e.g., perceptions of internal control, perceptions of universal vulnerability, and favorable appraisals of current psycho-social functioning; Denkers, 1996), and for victims exhibiting prior hardiness (Denkers, 1996). Links were generally strong for victims with a def-

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1 The AP-LS, the first European study based on a longitudinal and prospective (vs. cross-sectional or retrospective) design, was inspired by older theoretical models of psychological adaptation to a criminal victimization, including the models suggested by Perloff (1983), Sales, Baum, and Shore (1984), and by Janoff-Bulman (1989, 1992).

2 A shortcut for *Res*ilience–*Sus*ceptibility Profile. What is particularly noteworthy is that the AP-LS provided evidence for the *moderating role* of the RESUS profile—the finding that such a profile also exerts a main effect on outcome measures was more commonly observed (Ozer et al., 2003). Some findings revealed that susceptible victims reported markedly higher levels of fear of crime, relative to resilient victims, and relative to resilient and susceptible controls. For property-crime victims this deviation remained visible up to 2 months postvictimization; for victims involved in person—directed, or violent, crimes this deviation persisted up to 8 months postvictimization.

3 These included standardized measures of perceptions of physical and psychological health (Erdman, 1981; Wohlfarth, Winkel, Ybema, & Van den Brink, 2001), fear of crime (Winkel, 1998), satisfaction with life (Diener, 1984; Diener, Emmons, Larsen, & Griffin, 1985), the Symptom Checklist 90-R (Derogatis, Lipman, & Civi, 1973), and perceptions of the benevolence of the world, control over outcomes, luck and self-worth (Janoff-Bulman, 1989).

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icit in previctimization positive beliefs or poor mental health status (Winkel, 1999), for victims who were unemployed (Wohlfarth, Winkel, Ybema, & Van den Brink, 2001), repeatedly victimized (Winkel, Blaauw, Sheridan, & Baldry, 2003), for whom partner support was not available (Denkers & Winkel, 1998b), and for victims exhibiting a ruminative/anxious response style, a factorial dimension underlying a high need for affiliation, an anxious style of information processing, and perceptions of unique vulnerability (Denkers & Winkel, 1997).

Exploratory analyses conducted by Smit (1999) revealed that all RISK (10) items were significantly positively associated with (concurrent) high initial postvictimization distress, in terms of both heightened anxiety (*State Trait Anxiety Inventory*/STAI; Spielberger, Gorsuch, & Lushene, 1970) and negative affectivity[4] (Watson & Clark, 1984; Watson, Clark, & Carey, 1988; Watson, Clark, & Tellegen, 1988). Analyses conducted by Wohlfarth et al. (2002, 2003) revealed that the predictive performance for a diagnosis of PTSD of instruments consisting of only a few, single item—measures was similar to that of standardized instruments, consisting of a series of items. Regression analyses, moreover, suggested that the latter instruments did not significantly enhance diagnostic accuracy of brief measures.

In contrast to previous studies in which the presence of risk factors was inferred on the basis of (multi-item) scaled measures, the present study used single items, derived from these scales, to represent the various risk constructs. Moreover, a simple yes-no response format was used, instead of a more complicated format requiring respondents to ponder over large numbers of alternative scale points. The obvious reason to do so was that the police are neither willing, nor have the resources and capabilities available, to engage in lengthy diagnostic screening (or interviewing). Our major goal was to develop a brief, self-report based screener that could be easily administered in a police context and which was acceptable to respondents in that context.[5] Inspection of Appendix B reveals that the current instrument satisfied the criteria for brief and useful screening instruments, suggested by Brewin, Rose, Andrews, Green, Tata, McEvedy, Turner, and Foa (2002).

Method

Participants

Police officers requested persons who filed charges of a victimization at one of the Amsterdam (Meer en Vaart district) police stations to participate in a study of the func-

tioning of victim support. Directly after reporting, participants were presented with a self-report paper version of the Risk (10)—instrument, which was preceded by an informed consent paragraph. This paper and pencil version was either presented directly by a previously trained police officer, who conducted the police interview, or by a research associate, who was familiar with the purpose of the present study. The average age of participants ($N = 126$) was 48 years ($SD = 19.13$, range = 12—89). Most participants were male ($N = 72$; 57%), 42% were female ($N = 53$). Participants filed charges of a burglary ($N = 28$, 22%), property theft ($N = 47$, 37%), street robbery ($N = 24$, 19%), or physical assault ($N = 23$, 18%). To our request for participation in the follow-up part of the study 3 months after initial reporting, 74% ($N = 93$) responded positively by returning a mailed questionnaire[6]. Follow-up participants were predominantly female ($N = 57$, 61%), 39% were male. Their average age was 47 years ($SD = 19.35$; range = 12–84). Following Brewin, Andrews, Rose, and Kirk (1999), there was no reason to believe that the gender bias in responding would jeopardize the associations between risk factors and outcome measures that are the focus of this study. AD diagnoses were, moreover, derived from gender-based norm scores.

Instruments

Postvictimization distress was measured in terms of Anxiety, Depression, and Intrusions, 3 months after reporting to the police. Intrusions were assessed via the 7-item Intrusion subscale of the Impact of Event Scale (IES; Horowitz, 1976; Horowitz, Wilner, & Alvarez, 1979). This subscale has been shown to have reliable psychometric properties (Joseph, 2000). Joseph (2000) concluded that the IES "has provided, at least historically, what might be described as the gold standard self-report measure in trauma research" (p. 108). Cronbach's α for the present sample was .94, and its test-retest (1 month–3 months postvictimization) reliability was .80. The items on the IES were developed from statements most frequently used to describe episodes of distress by people who had experienced similar recent life events. Each of the 7 intrusion items were administered using 4-point frequency scales (i.e., 0 = *not at all*, 1 = *rarely,* 2 = *sometimes*, and 5 = *often*) in relation to the past week so that the total Intrusion score had a possible range of 0 to 35, with higher scores indicating greater frequency of intrusive thoughts.

Anxiety and Depression responses were assessed via the 10-item Anxiety and the 16-item Depression sub-scales of

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4 Risk (29) accounted for unique variance in negative affectivity responses; Risk (2689) accounted for unique variance in state anxiety responses.

5 Items referring to the reporter's "psychiatric history" (a validated risk factor for persistent symptomatology; Ozer, Best, Lipsey, & Weiss, 2003) were, for example, not considered appropriate in this context.

6 Inspection of these questionnaires revealed that in a few cases of burglary the questionnaire was completed by the partner of the individual who made the original report to the police. Obviously, these cases were dropped from the analyses.

the Symptom Checklist 90 (SCL 90; Derogatis, Lipman, & Civi, 1973), respectively. The SCL 90 has received extensive clinical use, and has been the focus of much research interest, with more than 900 studies demonstrating its reliability, validity, and utility (Carpenter & Hittner, 1995; Derogatis, 1998, Holman & Cohen Silver, 1998). Respondents used a 5-point intensity scale, ranging from *not at all* (1) to *extremely* (5), to indicate how distressed they had been by each of the 26 symptoms in the previous week. Cronbach's α's in the present study were .96 for Anxiety and .97 for Depression; test-retest reliabilities were, respectively, .79 and .80. Finally, the main set of predictor variables was provided by the Risk(10) screening instrument, details of which are reported in Appendix B. Risk(10), which rests on prior empirical evidence and theoretical significance, was specially created for the present study. Risk(10) was administered at baseline, while reporting to the police.

Results

Three months after reporting their victimization to the police, victims' *Anxiety (A)*, *Depression (D)*, and *Intrusion (I)* responses were substantially inter-correlated: $AD = .93$ ($p < .01$), $AI = .76$ ($p < .01$), and $DI = .70$ ($p < .01$). Almost all predictors (except for Risk 4; see Table 1) were significantly associated with at least two of these responses. Regressing Anxiety on Risk (10) yielded a model, $F(10, 73) = 17.06$, $p < .001$, explaining 73% of the variance. Stepwise analyses suggested retaining a 4-factor model, $R^2 = .69$; $F(4, 73) = 38.58$, $p < .001$, which included Risk 9, $t = 7.12$, $p < .001$; Risk 3, $t = 5.12$, $p < .001$; Risk 1, $t = 3.70$, $p < .001$; and Risk 7, $t = 2.59$, $p < .01$.

A saturated model for Depression, $F(10, 66) = 11.29$, $p < .001$, resulted in an R^2 of 67%. A 3-factor model, $R^2 = .62$; $F(3, 66) = 35.48$, $p < .001$, emanated from a stepwise analysis. This reduced model consisted of Risk 9, $t = 8.18$, $p < .001$; Risk 3, $t = 4.62$, $p < .001$; and Risk 7, $t = 2.97$, $p < .001$.

A Risk (10) model, $F(10, 70) = 10.61$, $p < .001$, explained 63% of the variance in Intrusion responses. A stepwise regression of Intrusion suggested a 4-factor model, $F(4, 70) = 20.31$, $p < .001$; explaining 55% of the variance. This model consisted of Risk 3, $t = 5.23$, $p < .001$; Risk 9, $t = 3.46$, $p < .001$; Risk 7, $t = 2.62$, $p < .05$; and Risk 10, $t = 2.54$, $p < .05$.

Table 1 reveals that high postvictimization distress in terms of Anxiety is best predicted by Risk (9317). High levels of anxiety were reported by victims who immediately experienced their victimization as life threatening or as a mental burden, who engaged in character attributions, who reported coping problems due to a prior victimization, or who reported the expectation of a deficit in social support. High levels of Depression were best predicted by Risk

(937), and high levels of Intrusive reactions by Risk (39710), which included the presence of physical damage (Risk 10) as an additional risk factor explaining unique variance. Risk (937), thus, constitutes the common subset of risk factors underlying high distress in general.

To further examine the relations between distress levels and the number of these risk factors present, analyses of variance on Anxiety, Depression, and Intrusions were conducted, in which Risk (937) represented a single factor consisting of 4 levels (no risk vs. 1, 2, or 3 risk factors present). Table 2 reveals substantial increments in distress if more risk factors were present.

Arrindell and Ettema (1986) developed norm scores for anxiety and depression in a normal population. In terms of a nonvictimized comparison group, the average score for males on anxiety is 13.0: High scores on anxiety here range from a lower bound of 15 to an upper bound of 21. For female comparisons a mean score of 14.6 was found, with high scores varying between 18 and 26. The mean comparison score on depression for females is 23.8: High scores range from 28 to 41. The high range for males varied between 23 and 33, with a mean score of 20.7. These normative data were used to define cutoff scores in the current sample of crime victims.

For male victims anxiety scores higher than 14 were considered to indicate symptomatology; for female victims a cutoff score of 18 was used. The cutoff value for depression symptomatology was set at 23 for male victims, and 28 for female victims. Following the suggestions offered by Brom and Kleber (1985), and Brom, Kleber, and Hofman (1993) intrusion scores higher than 13 indicated serious symptomatology. Using these cutoff scores 33% (excluding missing values) of the victims exhibited Anxiety (11 males and 19 females), 27.7% exhibited Depression (8 males and 15 females), and 29.5% exhibited Intrusion symptomatology (4 males and 22 females). Adjustment disorder in terms of Intrusive Anxiety emerged in 21.8% of the participants; Intrusive Depression in 17.5% of the victims. Anxiety (AS), Depression (DS), and Intrusion (IS) Symptomatology were found to be significantly associated: $ASDS = .85$ [Spearman correlations] ($p < .01$), $ASIS = .60$ ($p < .01$), and $DSIS = .55$ ($p < .01$). The likelihood that victims who exhibited AS also exhibited IS was 76%; for victims exhibiting DS this likelihood was 67%.

The extent to which the Risk (937) components were associated with the development of AD in terms of both intrusive anxiety and depression is reported in Table 3.

Most individual risk factors were significantly[7] and substantially associated with later AD (smallest "borderline" $\chi^2 = 3.73$; $df = 1$; $p < .05$, crosstabulating Intrusive Anxiety by Risk 8; smallest "borderline" $\chi^2 = 3.70$; $df = 1$; $p < .05$, crosstabulating Intrusive Depression by Risk 7). Risk 4, 5, and 6 had no diagnostic value[8], neither for Intrusive Anxiety, nor for Intrusive Depression. Logistic regres-

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7   ($p(\chi^2(1)) < .01$).
8   $p(\chi^2(1)) > .05$, or insignificant Spearman's ρ.

Table 1. Predictor selection rates (PSR) and predictive accuracy of risk factors for anxiety, depression, and intrusion responses 3 months after reporting to the police.

Risk factor	PSR	Anxiety		Depression		Intrusion	
		r	β#	*r*	β	*r*	β
1. Coping Residuals	.17	.56**	.27**	.47**		.44**	
2. Upward expectancies	.53	.35**		.35**		.41**	
3. Character attributions	.43	.44**	.35**	.41**	.36**	.46**	.43**
4. Unique vulnerability	.34	.14		.14		.06	
5. Insufficient protection	.53	.21*		.24*		.11	
6. Upward coping	.07	.20*		.23*		.11	
7. (no) Support expectancies	.10	.25**	.18**	.29**	.23**	.28**	.22**
8. Previctimization well-being	.18	.49**		.39**		.29**	
9. Mental burden	.24	.66**	.52**	.66**	.63**	.52**	.34**
10. Physical damage	.19	.43**		.36**		.45**	.25**

**p < .01, *p < .05; #Stepwise analyses

Table 2. Means *(SD)* on postvictimization anxiety, depression, and intrusion by various levels of risk (937).

	Anxiety		Depression		Intrusion	
	M	*(SD)*	M	*(SD)*	M	*(SD)*
Risk (937)						
No factors present	11.33	(2.32)	18.08	(4.29)	3.44	(5.08)
1 factor present	15.96	(7.02)*	24.76	(12.09)*	11.50	(8.52)*
2 factors present	27.42	(11.07)*	39.89	(4.30)*	19.57	(11.78)*
3 factors present	42.00	(7.07)*	60.50	(19.09)*	30.00	(7.07)*

*Bonferroni post -hoc comparison against "no factors present."

Table 3. The sensitivity, specificity, positive, and negative predictive power of Risk (379) components for adjustment disorder in terms of intrusive anxiety and intrusive depression in victims of crime.

Risk factors for:	Sensitivity	Specificity	Positive predictive power	Negative predictive power	Correct AD classification
Intrusive anxiety					
Character attribution	.85	.69	.39	.94	.71
Social support deficiency	.22	.95	.57	.82	.79
Mental burden/Life threatening	.56	.92	.67	.88	.84
Intrusive depression					
Character attribution	.91	.68	.36	.98	.71
Social support deficiency	.23	.94	.43	.86	.81
Mental burden/Life threatening	.62	.92	.62	.92	.87

sion analyses, reconfirming our previous analyses, revealed that the Risk (937) components accounted for significant unique variance in Intrusive Anxiety, and Risk (93) for significant unique variance in Intrusive Depression. Table 3 shows the sensitivity of the three selected risk factors (i.e., the probability that someone with an intrusive anxiety or an intrusive depression disorder will have earlier reported that risk factor), and its specificity (i.e., the probability that someone without a later AD diagnosis will not have reported that risk factor). Table 3 also shows the positive predictive power of each risk factor (i.e., the probability that someone with that risk factor will later report a diagnosis of AD), and its negative predictive power (i.e. the probability that someone without that risk factor will not subsequently receive an AD diagnosis). The overall percentage of cases correctly classified by each risk factor is shown, too. Inspection of Table 3 reveals that a substantial majority of reporters on the basis of Risk (937) components were correctly classified in terms of their likelihood of developing Adjustment Disorder. All three risk factors are more or less equivalent in having high specificity and high negative predictive power. In other words, most victims without a diagnosis of Intrusive Anxiety or Intrusive Depression will not have earlier reported these factors, and the absence of these risk factors implies a low risk of later AD. In view of the base-rates, all three risk factors have satisfactory positive predictive power. High specificity particularly emerged for Risk 9 and, to a lesser extent, for Risk 3 (Brewin, Andrews, Rose, & Kirk, 1999; Loeber & Farrington, 1999). Almost all victims who developed AD had earlier reported engaging in character attributions, while a clear majority of these victims also reported having expe-

rienced the episode as a mental burden or as life threatening.

Discussion

The under-utilization of psychological services by clients who are objectively in need of external support is common among "trauma populations" and is undoubtedly not unique to the domain of criminal victimization (Mcfall, Malte, Fontana, & Rosenheck, 2000). However, in this particular domain under-utilization appeared to be rather substantial. This results in substantial social costs, both financially, and in terms of continued human suffering. Moreover, current legal procedures, particularly the way in which referral rights are enforced, tend to preserve this unwanted status quo. Systematic programs aimed at the *early detection* and *p*revention (EDP-programs) of persistent future psychological distress due to a criminal victimization may contribute to narrowing the gap between needed and received support. The current findings provide initial empirical evidence suggesting that Risk (10) constitutes a basis for developing EDP programs. Most Risk (10) components were found to be significantly associated with 3 months postvictimization distress, and various components had unique diagnostic value for predicting various forms of AD. The diagnostic values emerging in this study are more than satisfactory, e.g., in general these diagnostic values are approximately equivalent to the diagnostic values of Acute Stress Disorder (ASD) for predicting future PTSD, recently reported by Brewin et al. (1999). To further examine the replicative stability of the associations observed here, we are currently conducting a cross-validation study, in which the Risk (937) components are combined with four other Risk factors that were found to have diagnostic value for predicting PTSD in a previous study (Wohlfarth et al., 2002). This study also includes prevention ingredients (Wohlfarth, 2000). During a 6-months pilot-phase the administration of Risk (7) will be a routine component of every police interview with crime victims at three Amsterdam police stations. All victims who score positive on at least three risk factors will be flagged as being at high risk for developing PTSD or AD. This group of victims will be randomly assigned to one of two groups. The first group will be flagged as being at risk, and this information will be passed on to victim support, which in turn will treat them accordingly. The second group will be treated as usual, i.e., no information about their flagged status will be presented to victim support, and hence these

victims will be submitted to "procedure as usual." Follow-up measures will focus on the utilization of support services, and on the impact of treatment on various aspects of psychological functioning.

To our knowledge, this is the second study documenting the empirical viability of (very) early detection, in the sense of predicting a victim's future status at the impact stage, thus, in the direct aftermath of the victimization. The dual control hypothesis—with which the current findings are in line (Smit, 1999)—provides the theoretical rationale for the clinical utility of "impact stage" prediction. Much of the current debate in the trauma literature, and more specifically the literature dealing with PTSD, appears to suggest, more or less explicitly, that such type of prediction is virtually impossible. For example, ASD, which can be conceived of as an extensive screening instrument for later PTSD, can only be diagnosed *1 month* postvictimization. The main reason underlying this (DSM-IV) temporal constraint is the mixed findings reported in the empirical literature concerning the diagnostic value of high initial distress responses emerging in the direct aftermath of criminal exposure. Simultaneously, there is empirical evidence, reviewed in more detail by Joseph (2000), suggesting that high initial distress is predictive of future PTSD, and empirical evidence suggesting the opposite, namely that high initial distress is not pathogenic. Parallel to this empirical "state of the art", two opposing theoretical positions were advanced in the PTSD literature. McFarlane (1992), for example, argues that in the immediate aftermath of an event, high levels of intrusion are normal and do not signal an inability to emotionally process the event. Consequently, it is only later that high intrusion scores become predictive of later outcome. Creamer, Burgess, and Pattison (1992) have also proposed that the intrusion subscale can be used to measure the cognitive processes that mediate between the traumatic event and subsequent emotional responses. Creamer et al., in fact, suggest that higher intrusion scores are indicative of active cognitive processing and, therefore, higher scores should be predictive of *less* rather than more subsequent psychological distress. Data presented by Creamer et al. (1992) support this hypothesis. The opposite theoretical position, reviewed in more detail by Brewin et al. (1996), considers high initial distress to be pathogenic in nature. Janoff-Bulman (1992) argues that high initial distress represents an intense underlying emotional conflict, emanating from a cognitive discrepancy between prior (previctimization) cognitions and current event-related ("shattered") assumptions[9].

Dual control theory[10] provides an opportunity to dissolve the noted empirical inconsistencies. A specific prediction

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9 The findings reported by Denkers and Winkel (1998a,b) appear to be inconsistent with the shattered assumptions framework, and are better accommodated by a "priming" or "reconfirmation model," in which the victimization is perceived to reconfirm relatively negative beliefs held prior to the victimization. This study also confirmed the dual control hypothesis.

10 Dual control theory represents a "middle of the road" perspective integrating the "pure" adversity-distress model (the DSM definition of PTSD is the prototypical example of this type of model; Dohrendwend, 1998) and a diathesis-distress model, which underlies Bowman's (1997) theoretical position. Dual control obviously implies a more balanced focus on both, instead of an exclusive focus on either the episode, or on personal and social vulnerability factors.

flowing from this hypothesis, which merits further research attention, is that high initial distress is pathogenic—and thus predictive of future psychiatric status in terms of trauma spectrum disorders (Bremner, 1999) for victims exhibiting (previctimization) susceptibility, e.g., in terms of an abundance of the risk factors presented in this study; while initial distress is not pathogenic, and merely indicates attempts to actively cope with the episode, in victims exhibiting trauma resilience, or hardiness (Kobassa, 1979; Kobassa, Maddi, Puccetti, & Zola, 1985). Initial distress, thus, appears to be conditionally related to future pathogenic outcomes, e.g., the presence or absence of RISK (10) components.

The focus of the present study was on examining the predictive utility of the Risk (10) instrument, and thus not on directly testing its underlying conceptual framework, which highlights the significance of prior susceptibility. The fact that the risk constructs represented in Risk (10) were assessed after the victimization may have introduced error variance. If responses to the Risk (10) items do not, at least partially, reflect differences in prior susceptibility, but mainly "reflect" error variance, this would have resulted in relatively low and insignificant associations with outcomes. The precise extent to which error was actually introduced cannot be assessed or estimated, given the design of the present study. The precise wording of items representing a given risk construct, thus, remains a concern for future study. A related issue concerns the relative accuracy of assessments based on self—reports vs. those based on a structured interview conducted by a trained police officer or support provider. Currently, the items used, although they were derived from commonly used scales, mainly have face validity, and their empirical validity needs further scrutiny.

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Appendix A

Some basic propositions forming part of the Duality Model of Traumatic Memory (TM).

Dual Structure:

TMs are stored networks involving (1) Episode (*S*)–(2) Emotional *R*esponse Associations (initial "encoding" starts during "exposure");

Dual Control:

The development of persistent TMs is determined by the interaction of (1) trauma susceptibility and (2) episodic features, or TM = f (P × E), in which P = Person/victim, and E = Environment/victimization. High susceptibility is present if the victim's susceptibility profile is characterized by an abundance of risk/vulnerability factors, and a deficit in resilience/protective factors. The main episodic feature is the arousal potential of the episode. Arousal (toxic) potential is high if exposure to the episode elicits strong initial fight-flight responses in the victim.

Dual Susceptibility:

Susceptibility includes both (1) intrapersonal (previctimization), and (2) interpersonal/social (postvictimization) variables.
Susceptibility includes a (1) cognitive and/or an (2) emotional dimension. Cognitive vulnerability, e.g., is present if the victim is characterized by a "Beckian" style of information-processing; emotional vulnerability is present if the victim exhibits an emotional/anxious style of processing (e.g., previctimization neuroticism, or negative affectivity, or emotional reactivity).

Dual Forcefield:

The relative contribution of susceptibility and episodic features to TM formation is variable. Under some conditions (1) susceptibility "overrules" episodic features, under other conditions (2) the reverse is true.

Dual Storage:

Episodes and associated responses may be stored (1) consciously or (2) unconsciously. Controlled (1) processing results in explicit ("verbally accessible") TMs, automatic (2) processing in implicit ("situationally accessible") TMs. High initial arousal limits the opportunity for controlled processing.

Dual Source:

In hyperaffective, or (1) *Type A,* TMs the main mechanism underlying the episode associated emotional responses are (the initial) hyperarousal responses; in hypercognitive, or (2) *Type C,* memories stored appraisal processes are the main underlying mechanism. Type A is more likely to emerge if high arousal potential is combined with emotional vulnerability; Type C if low to moderate arousal potential is combined with cognitive vulnerability. Type A trauma-resolution requires desensitization-focused interventions; Type C trauma resolution interventions focusing on "re-scripting" or cognitive restructuring.

Dual Retrieval:

TM-retrieval may be (1) controlled (e.g., when the victim is talking to others about the episode) or (2) automatic. Automatic retrieval is not under the conscious control of the victim, but rather emanates from "triggered" (e.g., implicitly stored cue) activation. TMs brought back into working memory may consist of explicit and implicit Type A or Type C components. Restorage can be associated with cognitive or affective modification of the "original" TM.

Appendix B

Risk (10) screening instrument: An overview of Risk components and pertinent questions asked during police interview.

Coping Residuals

1(a) Were you recently victimized before
1(b) Do you still have problems with that victimization
(1(a) + 1(b): *yes* response → Risk 1)

Upward Expectancies

2. The consequences were worse than I expected (*yes* response → Risk 2)

Character Attributions

3. This typically had to happen to *me* (*yes* response → Risk 3)

Unique Vulnerability

4. In comparison to others, do you run a higher risk of getting re-involved in such an incident (*yes* response → Risk 4)

Insufficient Protection

5. I generally feel insufficiently protected against crime (*yes* response → Risk 5)

Upward Coping

6. In comparison to others I feel I am coping worse (*yes* response → Risk 6)

Support Expectancies

7. If needed, can you fall back on a supportive environment (partner, friends, relatives) (*no* response → Risk 7)

Previctimization Psychological Well-being

8. Are you generally (apart from what happened to you now) satisfied with your life situation (*no* response → Risk 8)

Mental Burden/Life Threat

9. Did you experience the event as life threatening or as a mental burden (*yes* response → Risk 9)

Physical Damage

10. Did you suffer physical damage (*yes* response → Risk 10)