



The Price of Mistrust: A Study into the Working Alliance as Predictor for Recidivism

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Abstract

The responsivity principle is a vital element in the risk-need-responsivity model. The working alliance is a good illustration of the intention of this responsivity principle. In this study, we examine the influence of the working alliance (WAMCI) between 199 offenders and probation officers on recidivism. Data for this longitudinal study originate from adult probation services in the Netherlands. The association between the working alliance factors and recidivism was analyzed using a Cox regression. Offenders who reported more Trust in the relationship with their Probation Officer after 9 months community supervision showed less recidivism in the subsequent 4-year follow-up period. This association remained significant when controlled for criminal history, age, gender, ethnicity, family status, employment and addiction problems. Offenders who reported more reactance showed significantly more recidivism in the follow-up period, but this association was accounted for criminal history variables. These results can be regarded as an extension of the responsivity principle; a trusting relationship may be needed to create a space in which the client becomes engaged in a changing process.

Keywords Probation · Working alliance · Recidivism · Prediction · Trust

Introduction

Community supervision is a frequently used disposition for offenders. The major aim of the supervision is rehabilitation, facilitating reentry in society and preventing the offender to persist or relapse in criminal behavior. Offenders are supported in their efforts to establish important changes in their way of life mainly to desist from offending. The leading model in probation supervision is the risk-need-responsivity (RNR) model. Adherence to the principles of this model has been proven effective in reducing recidivism

(Andrews and Bonta 2010; Hanson et al. 2009; Koehler et al. 2013; Lowenkamp et al. 2006; Prendergast et al. 2013; Smith et al. 2009). This model involves three principles. The risk principle implies giving most support to the higher risk cases and giving less intensive support to the low-risk cases. According to the need principle, the treatment targets selected in the program should address dynamic risk factors linked to criminal activity. The responsivity principle advises to match the supervision and treatment program with the client's abilities and preferences.

In the last decades, major progress has been made with respect to gaining insight and understanding of the risk and need principles. Extensive research has provided a list of robust risk factors for recidivism. The most powerful predictors of recidivism are the so-called central eight risk factors: criminal history, antisocial personality pattern, antisocial attitude, antisocial associates, family status, school/work, leisure/recreation, and substance abuse (Andrews and Bonta 2010). Several demographic factors have been found to be related to the risk of recidivism, most importantly young age and being male (Caudy et al. 2013; Gendreau et al. 1996; Langnan and Levin 2002). Other examples of proven risk factors for relapse are parole violations and mental health issues (Douglas et al. 2013). The need principle implies

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that the needs of the offender are the targets to bring about change. Intervention programs should address the criminogenic needs, e.g., impulsivity, substance use, interpersonal problems (Serin et al. 2016; Vieira et al. 2009; Wooditch et al. 2013). When changed, the needs of an offender associated to recidivism reduce the risk of reoffending.

The responsivity principle comprises two principles according to Andrews and Bonta (2010): general and specific responsivity. General responsivity refers to social learning and cognitive behavioral interventions as preferred ways to influence offenders in changing their criminal lifestyle. Specific responsivity means that treatment should match with personality, learning styles, motivation, culture, and age (Andrews and Bonta 2010; Polaschek 2012). However, these two principles do not cover all there is to say about responsivity. Bourgon and Bonta (2014) identified the creation of a learning environment as the crucial factor for responsivity, where change is promoted and initiated, and the engagement of the client increases. They argue that a learning environment needs collaboration to enhance the engagement of the client. This environment provides an interpersonal space, because the probation officer (PO) ensures that the supervision matches the needs of the client in order to collaborate to the best of their ability. This perspective on responsivity has not received much attention in both empirical studies and practice. A few authors have elaborated on this using the concept of the working alliance, which also refers to being well attuned to the goals, the needs, and the theory of change of the client (Bourgon and Bonta 2014; Bourgon and Gutierrez 2013; Braucht 2009; Morash et al. 2016, Polaschek 2012). According to Bordin (1979), the working alliance comprises three key ingredients: an agreement on the goals to work on, consensus on the tasks to achieve the goals, and an overall bond to facilitate the collaboration between the client and the therapist. This concept provides a framework that can give more insight into ways of working together to meet client needs. Therefore, the working alliance seems to be a promising concept that can deepen the understanding of the responsivity principle.

Working Alliance in Judicial Context

Meta-analytic reviews have testified to the fact that working alliance is one of the most consistent predictors of therapeutic success in the field of voluntary psychotherapy (Flückiger et al. 2018; Horvath et al. 2011). In the judicial domain however, little research had been done with regard to the working alliance. The scarce studies suggest that relationship quality between offender and PO could be important in the judicial domain to prevent negative outcome like recidivism (Taxman and Ainsworth 2009). However, the working alliance between practitioners and mandated clients is different in nature from

the working alliance with voluntary clients. For this reason, several scholars have made a modification in the widely used working alliance measurement in voluntary settings, the working alliance inventory (WAI; Horvath and Greenberg 1989). Skeem et al. (2007) emphasized in their study into the working alliance the dual nature of the relationship between professionals and mandated clients. They argue that the professional needs to take a hybrid stance in the communication with the client. The professional is not only the counselor who provides support but also the guardian who controls risks and violation of conditions. The working alliance with mandated clients is a representation of both roles. Skeem et al. (2007) studied the applicability of the concept of the working alliance in an empirical study and developed the Dual Role Inventory (DRI-R), which takes into account the different roles of the professional. This inventory comprises subscales, which reflect the dual roles: caring-fairness (bond and relational fairness), trust (trust in one another), and toughness (authoritarian supervisory style). On the one hand, a trusting and caring relationship is needed to work together toward a crime-free life; on the other hand, toughness is inevitable sometimes and will play a role in the relationship (Skeem et al. 2007).

To date, a small number of outcome studies into the working alliance in mandated treatment have been carried out. In the aforementioned study, Skeem et al. (2007) found a positive association between the DRI-R and probation violations and new arrests in a sample of 90 probationers. Wild (2011) conducted a study with 189 juvenile offenders and found an association between the DRI-R and probation violations, but not between the working alliance and court violations. Hart and Collins (2014) found a positive association between working alliance (measured by the WAI) and perceived probation success by the probationer in a sample of 48 probationers. Although these studies have yielded important new insights, they share an important limitation: they did not control for important risk factors like age or crime history. Only a handful outcome studies have included confounding variables. Brocato and Wagner (2008) assessed the association between the working alliance (WAI) and retention in a sample of 141 felony offenders in an alternative-to-prison substance abuse treatment. They controlled the association for severity of drugs use, age, ethnicity, and psychological problems and found no association. Calhoun (2018) studied the association between the working alliance (WAI) and medication adherence in a sample of 49 parolees with mental illness. In this study, the impact of the working alliance was controlled for age, ethnicity, and substance abuse. No association between the working alliance and outcome was found. In the context of drug-abusing probationers, Blasko et al. (2015) found a positive relationship between the working alliance (DRI-R) and drug use days and violations during follow up period, when controlled for risk level as determined by a Lifestyle Criminality Screening Form (LCSF;

Walters and Chlumsky 1993). The sample consisted of 480 parolees and the effect was small. Kennealy et al. (2012) conducted a study into the usefulness of the DRI-R, with 109 probation clients without a psychiatric disorder. In this sample, the DRI-R predicted future arrests, also when controlled for the level of risk and personality traits. The association between parole officer-parolee relationships and HIV risk behaviors was studied by Green et al. (2013). They found an association between the WAI and the Trust subscale of the DRI-R and HIV risk behavior among a sample of 65 women but not among a sample of 309 men, controlled for age, minority status, risk-level (LCSF-score), and marital status. Taken together, these studies provide limited evidence: only five studies included risk factors for recidivism in the design, and these studies showed mixed results on whether the working alliance can predict positive outcomes. Only one study showed a large positive association between the working alliance and positive outcome of probation supervision. The other studies showed a small effect, only an effect for a subsample or no effect at all. The research, summarized above, suggests that the alliance-outcome association is a robust finding in voluntary psychotherapy. However, in mandatory treatment contexts, the research findings are mixed. So, although it seems that this concept gives substance to the principle of responsiveness, its effectiveness has not yet convincingly been demonstrated.

Probation in the Netherlands: A Comparison with US Probation

Studies into the working alliance in probation supervision are mainly conducted in USA. The concept from which the measuring instruments are made fits the American situation. As the situation in Dutch probation differs from the US probation in many aspects, a short description of the Dutch situation might be useful. In the Netherlands, the community supervision consists of a face-to-face interview from once a week up to once a month. The exact frequency is dependent of the risk level as assessed using a risk assessment instrument. The probation officer supports the probationer in meeting the imposed conditions and in his rehabilitation process with social casework techniques like motivational interviewing and techniques specialized for probationers with learning disabilities or severe substance use problems. It belongs to the autonomous role of the probation services to decide if the special conditions are violated. In the case of violations of the special conditions, they have to report to the ordering party, i.e., the public prosecutor or Custodial Institutions Agency (Dienst Justitiële Inrichtingen) and give advice about a follow-up. They do not have the authority of decision-making. This practice is largely the same in the rest of Europe. Jurisdiction in the USA is substantially differently oriented. American probation and parole are more punitive and are less directed at reintegration of the offender. Supervision takes

longer than in Europe, and conditions are more numerous and intrusive (Reitz 2018). Although the American probation officer is a social worker too, he is foremost a law enforcer with the right to arrest the probationer. The probation officer is allowed to carry a firearm and to wear a uniform (Small and Torres 2001). Furthermore, in US jurisdiction, it is common that probationers pay fees for probation and other probation-related services like drug tests, cognitive behavioral classes, or electronic home monitoring devices. Probation officers are responsible for collecting the probation fees (Ruhland 2020). This is very different from the European context where the probation officer has no rights to arrest the probationer or to use a weapon and where conditions are free of charge.

These differences have consequences for the concept of the working alliance. The working alliance in the Netherlands is rooted in social work and is based on values of strengths and autonomy of the probationer. Control is exercised through the relationship, and safety is created in collaboration between the offender and the PO.

The Current Study

In the foregoing, we argued that one of the pillars of probation work is responsivity. It is not yet clear how the worker can give substance to this responsivity other than to fit in with the learning style and the question of the client. The working alliance, an extensively researched and proven effective factor, can give more insight in the effect of the responsivity principle. Notwithstanding the promising evidence in other domains, the working alliance is still an understudied concept in the judicial domain. Thus far, the support for the alliance-recidivism association is not consistent. Furthermore, the working alliance is only studied in the US probation context, which is substantially different from the European context. The current study assessed the relationship between the working alliance and recidivism in the Netherlands, when controlled for criminal history, addiction problems, and demographic variables. Specifically the current study examined two primary research questions: (1) Are working alliance factors related with recidivism? (2) If working alliance factors are related, does the relation remain after controlling for empirically established predictors of recidivism?

Methods

Procedure and Sample

Data for the current study were collected during a research project into the working alliance at all three probation organizations of the Netherlands. All eligible probationers of nine offices of the three Dutch probation organizations, who started community supervision between December

2011 and February 2013, were asked by the PO to participate in the study. Inclusion criteria were the participant was not treated in a forensic inpatient setting, was able to communicate coherently according to the PO, and had sufficient command of the Dutch language. The offenders who agreed to participate were interviewed two times at the probation office by trained independent research assistants. The first interview was scheduled between the second to fifth supervision session and the second interview after 9 to 12 months of probation supervision. During the first interview, informed consent was obtained. The participant received 10 euros for each interview. In the first interview, the Working Alliance for Mandated Clients Inventory (WAMCI; Sturm et al. 2021) was conducted, together with several baseline variables. In the second interview, solely the WAMCI was conducted. The WAMCI variables of the current study were derived from the second interview. We chose to use these second ratings as previous studies into working alliance in a mandated context demonstrated that working alliance ratings later in treatment are stronger related to outcomes than early alliance ratings (Florsheim et al. 2000; Polaschek and Ross 2010). Data on post-supervision official reconvictions were retrieved with official permission from the Judicial Documentation Register (Justitieel Documentatie Systeem, JDS) from the Ministry of Justice. The research was conducted in line with the Helsinki declaration for studies on human subjects.

Participants were offenders with a probation supervision; 302 completed the first interview and 201 completed the second interview. The retention rate was 67%; 31 participants finished the supervision in a negative way (dropout, return to prison) before the second interview, 26 finished the supervision prematurely positive, 33 participants dropped out for various reasons (hospitalized, psychotic or moved), 11 refused further participation. Recidivism data of two offenders were not available. Participants were 199 offenders with complete WAMCI and recidivism data.

Measures

Demographic Variables

The current study included demographic characteristics of the study participants: gender, age, ethnicity, employment status, and family status. Gender was reported as male (0) or female (1). Age was a continuous variable that ranged from 18 to 79. Ethnicity of the offender as reported by the PO was coded as both parents born in the Netherlands (0), one parent born in a foreign country (1), and two parents born in a foreign country (2). Family status as single living with children (0), living with partner without children (1), living with partner with children (3), single (4); living with family (5); and employment status as employed (0), volunteer work (1), unemployed (2) were assessed by the offender at first interview.

Crime History Variables

Crime history variables included three variables: age at first conviction, prior conviction ratio, and offense type. Age at first conviction ranges from 12 to 80 years. Prior conviction ratio is the amount of justice contacts per year in the period between the first conviction of the offender and the last conviction up to the time of the first WAMCI measurement. Offense type used to be classified by the Judicial Documentation Register into the categories: violent offenses (murder, manslaughter, assault), drug offenses (manufacture, sale, delivery, or possession with intent to distribute), property offenses with violence, property offenses without violence (theft, receiving stolen property), sexual offenses (rape, child molesting), disturbing the peace/vandalism, and other offenses. The primary offense for which the offender was charged was used to classify the offense. When two or more primary offenses were registered, the most serious (with the highest custodial sentence) was used.

Addiction Problems

Current addiction problems were assessed by PO at first interview. The PO rated four addiction problems: alcohol, cannabis, hard drugs, and gambling with the item "I see my client as addicted to alcohol/cannabis/hard drugs/gambling" on a 7-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*). These ratings were added up to one variable addiction problems (4 = *no addiction problems* to 28 = *severe multiple addiction problems*).

Working Alliance

The WAMCI was specifically developed and validated for use in the context of mandated treatment in the Netherlands and examines the working alliance between the offender and the PO (Sturm et al. 2021). The existing instruments did not capture sufficiently the dimensions of the working alliance in this context. For the Dutch version, it was important that the measuring instrument included items about the neutral and clear communication of conditions and restrictions, taking into account the strengths and autonomy of the client. Furthermore, the items that involve static punitive attitude (in the DRI-R) were not included, because a one-sided punitive attitude is highly unlikely among the Dutch POs. Instead, items reflecting the dynamic dimension of reactance were included. The dynamic dimension of reactance refers to a two-sided interaction negativity of one can evoke negativity in the other and vice versa.

In this study, the offender version was used which is composed of 21 items. To capture the working alliance, we selected 6 items of the WAI, 8 items of the DRI-R, and

formulated 7 new items (Sturm et al. 2021). We examined the extent to which these items constituted multidimensional constructs. Results of principal components factor analyses demonstrated four factors. The first factor is largely identical to the subscale trust of the DRI-R, and which involves trust in each other's good intentions and open communication (Eigenvalue = 3.19, all factor loadings exceed 0.65). We labeled this factor Trust (5 items, example: "My probation officer trusts me to be honest towards him or her"). The second factor is a combination of items of the subscales bond, goal, and task of the WAI, with one item of the Caring/Fairness subscale of the DRI-R and relates to bonding to each other and to the shared goals (Eigenvalue = 2.91, all factor loadings exceed .49). We label this factor Bond (6 items, example: "I feel that my probation officer really does listen to me"). The third factor is a combination of two items of the WAI goal subscale, one item of the WAI task subscale and one item of the Caring-Fairness subscale of the DRI-R, and one (reversed) item of the Toughness subscale of the DRI-R and one new item about the clearness of the mandated goals. Together, this subscale is about clear communication about tasks, goals, rules, and duties. This subscale shares two items with the Bond subscale (Eigenvalue = 2.68, all factor loadings exceed 0.53). We label this factor Goals-Restrictions (6 items, example: "My probation officer always explains clearly what he or she expects of me"). The fourth factor is composed of newly developed items, concerning the offender's reactance (Eigenvalue = 1.88, all factor loadings exceed .32). We label this factor Reactance (6 items, example: "During our discussions, I argue with my probation officer a lot"). The response choices for the items were on a 7-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*). The subscales Goals-Restrictions, Trust, and Bond had a good internal consistency (Cronbach's alpha = .68–.74). However, the internal consistency for the subscale Reactance was insufficient (Cronbach's alpha = .49–.52). The predictive validity of the WAMCI was satisfactory for short-term outcomes like non-compliance, technical violations, early new charges, and early negative drop-out (Sturm et al. 2021). For the current study, the measurement of the second interview was used. This measurement represents the relationship during the supervision, as at the onset of the supervision, the relationship has to be built up.

Recidivism

The dependent variable in the current analysis was the dichotomous indicator of recidivism and the time between the second interview and end of the 4-year follow-up period. Two types of recidivism were charted, (1) general

recidivism: all re-convictions as a result of any offense, irrespective of the nature and seriousness of the offenses committed and (2) serious recidivism: re-convictions in relation to any offence that carries a maximum custodial sentence of not less than 4 years or for which pre-trial detention can be imposed. Serious recidivism was nested in general recidivism. For the purposes of this study, recidivism was defined as a charge that resulted in a conviction. Misdemeanors, transferred cases, and cases ending in acquittal, dismissal due to unlikelihood of conviction or any other technical decision were excluded. Settled, unsettled, and consolidated cases with a guilty verdict, a transaction settlement, and discretionary dismissals were included (Wartna et al. 2011).

Data Analysis

To test the predictive validity of the working alliance factors, two sets of analyses were carried out with the study sample. To prevent the likelihood of finding significant results by chance, the first step in the analyses was to divide the variables into different predictor domains (Fournier et al. 2009). The two domains were WAMCI-factors and risk factors (gender, year of birth, ethnicity, age at first conviction, offense type, family status, employment status and addiction problems). The variable "prior conviction ratio" was analyzed separately because of the assumed large impact of this variable on the recidivism, which makes the effect of the other variables more difficult to assess. In order to control for the influence of other relevant domains of predictors of recidivism and to isolate the effects of the working alliance constructs, the multivariate Cox regressions were estimated in two steps. First, we tested the model including all variables from one domain and removed the factors with very little influence, to prevent the inclusion of variables with no effect at all and retained only those predictors of recidivism with significance values of $p < 0.20$ for the subsequent multivariate analysis (Fournier et al. 2009). Specifically, in the second step, we estimated three models. In the first model, we regressed recidivism on the identified working alliance subscales with significance value of $p < .20$, and in the second model, we added the identified risk factors with significance value of $p < .20$ to the model. In the third model, we added prior conviction ratio. In this final model, the significant predictors for recidivism were the factors that reached the $p < .05$ criterion. These multivariate models estimate the unique variance of each variable controlling for other variables. This analysis was carried out twice: one set of analyses for general recidivism and one set of analyses for serious recidivism.

Results

Description of the Sample

The descriptive characteristics of the sample are shown in Table 1. Those included in the sample were the offenders with two completed assessments. One third of the original sample dropped out of the study after the first interview. The remaining group only differed from the excluded offenders with regard to ethnicity. The *F*-tests of the scores of the dropout-group and the remaining group were significant. The remaining group comprises more offenders with Dutch parents ($F(1) 8.73, p = 0.003$). The other baseline variables, including the WAMCI subscales, did not differ significantly.

Data Preparation

The study variables were checked for missing values, normality, variability of the data, proportionality of hazards, and multicollinearity (Tabachnick and Fidell 2013). Since age at first conviction showed a skewed distribution, the square root transformation solved the skewness to meet assumptions of Cox regression. The variable ethnicity had 8% missing values, which was more than the 5% recommended cut-off (Tabachnick and Fidell 2013). Missing values were imputed using multiple regression models containing type of offense and marital status as predictors. Five outliers were identified and left out of the analysis.

Analyses of the Domains

General Recidivism

In the first step, we examined the impact of the variables per domain on the general recidivism. The model with the working alliance subscales significantly predicted general recidivism; $\chi^2(3) = 28.94, p < .001$. Of the four working alliance subscales, the Bond subscale was not related to general recidivism at the $p < .20$ level.

The domain of the risk variables included age, gender, ethnicity, age at first conviction, offense type, family status, addiction problems, and employment status. This model significantly predicted general recidivism; $\chi^2(16) = [56.75-58.79]^1, p < .001$. When entered into the regression analysis, age at first conviction, ethnicity and offense type, addiction problems, and employment status remained significant at $p < .20$ level.

¹ The analysis was conducted with multiple imputation for the missing data. Five datasets were created, yielding five different χ^2 values with *p* values. We report here the range of χ^2 values and *p* values.

Table 1 Descriptive statistics of the offenders

	Number	Mean	SD
Age	194	35.44	12.67
Age at first conviction	194	24.31	13.00
Prior conviction ratio	194	0.68	0.40
Addiction problems	194	8.27	5.06
WAMCI: Trust	194	6.48	0.71
WAMCI: Goals-Restrictions	194	5.86	1.07
WAMCI: Bond	194	6.18	0.75
WAMCI: Reactance	194	5.55	1.03
	N	%	
Family status	194		
Single	87	44.8	
Living with family	42	21.6	
Living with partner and children	37	19.1	
Living with partner, no children	17	8.8	
Single with children	11	5.7	
Race/ethnicity	179		
Two Dutch parents	116	59.8	
One Dutch, one non-Dutch	12	6.2	
Two non-Dutch	51	26.3	
Employment status	194		
Unemployed	105	54.1	
Employed	80	41.2	
Volunteer	9	4.6	
Gender	194		
Male	169	87.1	
Female	25	12.9	
Offense type	194		
Violence	93	47.9	
Property without violence	33	17.0	
Sexual	18	9.3	
Drugs	16	8.2	
Property with violence	14	7.2	
Vandalisme, disturbing the peace	9	4.6	
Other	11	5.7	

Addiction problems with addiction to alcohol/cannabis/hard drugs/gambling according to PO

WAMCI Working Alliance for Mandated Treatment Clients

Serious Recidivism

The model with the working alliance subscales significantly predicted serious recidivism; $\chi^2(3) = 34.06, p < .001$. Of the four working alliance subscales, the Bond subscale was not related to serious recidivism at the $p < .20$ level.

The domain of the risk variables included gender, ethnicity, age at first conviction, offense type, family status, employment status, and addiction problems. This model significantly predicted general recidivism; $\chi^2(18) = [40.55-42.14]^1, p < [.001-.002]$. When entered

Table 2 Cox regression survival analysis: associations with general recidivism

Variable	Model 1			Model 2			Model 3		
	OR	SE	Sig	OR	SE	Sig	OR	SE	Sig
WAMCI: Trust	0.70	0.15	0.01	0.76	0.17	0.10	0.68	0.17	0.02
WAMCI Goals-restrictions	1.19	0.11	0.11	1.00	0.12	0.99	1.04	0.12	0.77
WAMCI Reactance	0.71	0.11	0.00	0.72	0.12	0.01	0.82	0.12	0.10
Ethnicity									
Ethnicity(1 non-Dutch parent) ^a				2.34	0.43	0.05	1.99	0.42	0.10
Ethnicity (2 non-Dutch parents) ^a				1.63	0.26	0.06	1.41	0.25	0.18
Age at first offense sqrt				0.66	0.14	0.00	0.78	0.15	0.08
Offense type ^b									
Violence ^b				7.40	1.02	0.05	9.23	1.03	0.03
Property with violence ^b				8.20	1.07	0.05	7.13	1.07	0.07
Drugs ^b				8.47	1.06	0.04	8.27	1.07	0.05
Property without violence ^b				13.78	1.03	0.01	14.26	1.04	0.01
Vandalism, disturbing the peace ^b				4.22	1.13	0.20	6.28	1.14	0.11
Other ^b				2.50	1.19	0.44	3.12	1.20	0.34
Addiction problems				1.04	0.02	0.07	1.02	0.02	0.44
Employment status									
Unemployed ^c				0.41	0.50	0.08	0.42	0.51	0.08
Employed ^c				0.44	0.52	0.11	0.57	0.52	0.28
Prior conviction ratio							5.23	0.37	<0.001

Chi-square model 1: χ^2 (3) 28.942, $p < 0.001$. Model 2: χ^2 (15) 69.808–72.983, $p < 0.001$. Model 3 χ^2 (16) 83.99–91.30, $p < 0.001$ (pooled data)

WAMCI Working Alliance for Mandated Treatment Clients, *sqrt* square root transformation, *OR* odds ratio

^aReference two Dutch parents

^bReference sexual offense

^cReference volunteer work

into the regression analysis only offense type, family status, employment status, and addiction problems remained significant at $p < .20$ level.

Multivariate Models

General Recidivism

The odds ratios and standard errors for all three models are displayed in Table 2.

Three models were conducted to determine to what extent probationers' working alliance subscales were associated with recidivism and to what extent the confounding variables influenced this association. The results of Model 1 demonstrate the relationship between working alliance subscales and general recidivism. The subscales Trust and Reactance showed significant effects: offenders with one point increase in Trust and one point decrease in Reactance had a decreased chance of recidivism 30% and 29%, respectively. In Model 2, the risk factors age at first conviction, ethnicity, offense type, addiction problems, and employment status were added to the analysis. With these confounders, the effect of the subscales Trust and Reactance decreased marginally. As a final

step, the prior conviction ratio was added. In this model, the effect of Trust increased significantly to 32%, and the effect of Reactance decreased to 18%. With regard to the confounders: convictions in the past predicted re-conviction in the future significantly in concert with the working alliance subscales.

Serious Recidivism

The odds ratios and standard errors for the models with serious recidivism as outcome variable are displayed in Table 3.

For the serious recidivism, the results were very similar. The subscales Trust and Reactance showed significant effects too; offenders with one point increase in Trust and one point decrease in Reactance had a decreased chance of recidivism 37% and 33%, respectively. In Model 2, the risk variables offense type, employment status, family status, and addiction problems were added to the analysis. With these confounders, the effect of the subscales Trust, Goals-Restriction, and Reactance changed marginally relative to the previous model. As a final step, the prior conviction ratio was added to the model. The inclusion of this confounder in the model mainly decreased the effect of the subscale

Table 3 Cox regression survival analysis: associations with serious recidivism

Variable	Model 1			Model 2			Model 3		
	OR	SE	Sig	OR	SE	Sig	OR	SE	Sig
WAMCI: Trust	0.63	0.16	0.01	0.66	0.18	0.02	0.64	0.18	0.01
WAMCI: Goals-restrictions	1.21	0.13	0.14	1.08	0.14	0.61	1.02	0.14	0.91
WAMCI: Reactance	0.67	0.13	0.00	0.68	0.14	0.01	0.78	0.15	0.09
Offense type ^a									
Violence ^a				4.54	1.03	0.14	2.35	1.20	0.48
Property with violence ^a				8.46	1.07	0.05	3.73	1.03	0.20
Drugs ^a				3.81	1.12	0.23	5.36	1.07	0.12
Property without violence ^a				8.22	1.04	0.04	5.88	1.05	0.09
Vandalism, disturbing the peace ^a				1.82	1.26	0.63	1.78	1.26	0.65
Other ^a				2.47	1.19	0.45	2.93	1.11	0.33
Employment status ^b									
Unemployed ^b				0.43	0.65	0.12	0.39	0.58	0.11
Employed ^b				0.36	0.61	0.09	0.42	0.61	0.15
Family status ^c									
Partner without children ^c				2.72	0.65	0.12	2.21	0.65	0.23
Single with children ^c				5.75	0.61	0.00	3.35	0.65	0.06
Single ^c				1.73	0.53	0.30	1.43	0.54	0.50
Living with family ^c				2.21	0.54	0.14	1.59	0.55	0.40
Addiction problems				1.04	0.03	0.19	1.00	03	0.97
Prior conviction ratio							4.75	0.43	<0.00

Chi-square model 1 χ^2 (3) 34.062, $p < 0.001$. Model 2 χ^2 (16) 61.542, $p < 0.001$. Model 3 χ^2 (17) 79.716. $p < 0.001$

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^aReference sexual offense

^bReference volunteer work

^cReference partner with children

Reactance, and the effect became not significant. The effect of the Trust subscale remained significant.

With regard to the confounders, the risk variables did initially yield significant results. Those effects all disappeared with the inclusion of prior conviction ratio, except for the Trust subscale. For serious recidivism as well as for general recidivism, convictions in the past predicted re-conviction in the future significantly.

Discussion

The objective of this study was to examine the value of the working alliance as part of the responsivity principle of the RNR-model. To assess its significance, the association between the working alliance subscales and recidivism rates of offenders was examined relative to several empirically proven predictors of recidivism. Regarding the first research question of this study: "Which working alliance factors are most strongly correlated with recidivism?," the results showed that offenders who reported high ratings on the working alliance subscale Trust and low ratings on the subscale Reactance showed significantly fewer re-convictions in the follow-up period of

4 years. The ratings on the subscales Goals-Restrictions and Bond demonstrated no association with reconvictions.

Regarding the second research question: "Do working alliance factors continue to predict recidivism after controlling for empirically established predictors of recidivism?" the effect of the subscale Trust remained significant when controlling for prior convictions and diminished when controlling for confounding risk variables. The effect of Reactance disappeared when controlling for prior convictions but remained significant when controlling for other risk variables. The prior conviction ratio explained the effect of the association between reported Reactance and registered reconviction. In line with numerous studies (Andrews and Bonta 2010; Bonta et al. 2014; Grieger and Hosser 2012), prior conviction ratio was a strong predictor of re-convictions. However, this finding is not surprising as the predicted behavior is the same as the predicting behavior (Kurleychek et al. 2006).

The findings regarding the Trust subscale suggest that offenders with fewer re-convictions in the follow-up period of 4 years have more trust in the PO and the supervision trajectory. This finding of less recidivism can be explained both ways: as a result of the beneficial effect of building trust

in the relationship with the PO, or as a result of the fact that an offender is already capable of forming a trustful relationship. The direction of the association is not clear, and more research is needed to understand this. With the inclusion of prior conviction ratio, the effect increased, which may indicate a larger effect for offenders with more prior convictions, but caution is warranted because of the large number of variables in the model that might have caused a spurious finding.

The findings regarding the Reactance subscale revealed that prior conviction ratio accounted for the effect of reactance. This finding suggests that offenders with a high prior conviction ratio reported more reactance in the contact with the PO. The reactance seemed more likely a consequence of the high conviction rate in their life with possibly the same underlying factors accounting for these results. The association between reactance and reconvictions might be explained by the criminal lifestyle, which also results in strains and difficulties during the supervision trajectory. It should be noted that the internal consistency of the reactance subscale was not satisfactory so these findings need to be taken with caution.

The Goals-Restrictions subscale showed a small, but not significant effect. The effect disappeared completely by adding confounders into the analysis. Strikingly, the direction of the effect is different from the other subscales. The offenders who reported a high score on Goals-Restrictions also reported a high recidivism rate. A possible explanation for this finding is that the offender regards the goals and the restrictions as imposed instead of clearly explained and agreed. Therefore, this subscale may reflect a negative feeling that is not motivating toward behavioral change. Another possible explanation can be found in the theory on goal-setting of Locke and Latham (Locke and Latham 1990; Lunenburg 2011). This theory states that goal-setting is effective if certain conditions are met. Achievable goals need to be specific and regularly evaluated. The absence of an effect of this subscale may be a result of a too limited measure of the concept of goal-setting. The subscale reflects the clarity about restrictions and jointly agreed goals, not the degree of specificity of the goals or if the goals are achievable and evaluated.

The finding that the subscale Bond is not associated with reconviction is contrary to the study of Kennealy et al. (2012). Their study showed that the subscale caring-fairness of the DRI-R, which resembles the Bond subscale, was predictive of positive outcome, even when controlled for risk level. This inconsistency is likely due to the correlation between Trust and Bond. Analyzed in concordance with Trust, the effect of Bond is not noticeable. Trust appeared to have much more effect than Bond. It is possible that having a sense of trust and confidence is more important than having a sense of bond, comprising connection with each other, but also connection with the goal of the supervision.

Earlier studies examining the alliance-outcome association showed mixed findings. The importance of the subscale

Trust in the current study is consistent with similar findings of the study of Kennealy et al. (2012), and of Blasko et al. (2015), but we could not find support for the importance of the other subscales. The absence of the Bond recidivism relation can be based on the intercorrelation between Trust and Bond. The two other subscales Goals-Restrictions and Reactance showed less resemblance to the DRI-R. The current study reveals that Trust seems to play an important role in the relationship between the PO and the client, from the offenders' perspective. This can be regarded as an extension of the responsivity principle, and a trusting relationship aiming at rehabilitation may be needed to create a space in which the client becomes engaged in a changing process.

Limitations

The present study has several limitations. First, causal relationships cannot be identified based on the current findings. The direction of the correlation between the subscales and reconvictions cannot be inferred. We controlled for important confounders like criminal history, addiction problems, and demographic variables, but there may be more variables that can possibly affect the association between the working alliance subscales and recidivism. Specifically changing dynamic risk factors are possible important factors, and more research is needed to understand their impact. Furthermore, high-risk offenders were underrepresented in the current sample (Sturm et al. 2020a), and the sample comprised less respondents of a minority background than the dropout group. As a result, the findings of the current study should not be generalized to high-risk populations and minorities. Future studies should include offenders characterized by sufficient variability in risk levels and minority status. Third, the internal consistency of the Reactance subscale was not sufficient. The findings with this subscale should thus be interpreted with caution. From the standpoint of external validity, the current sample was composed of Dutch probationers. Accordingly, these results may not be generalizable to community supervision populations especially from countries outside Europe. Finally, the operationalization of recidivism as re-conviction within 4 years is a conservative metric of recidivism of criminal behavior, given that there are usually a "dark number" of crimes that are not detected.

Implications

Given that the Trust subscale is associated with re-convictions in concordance with several strong predictors like conviction ratio and addiction problems, the relational aspect of supervision

may be an important part of the change process. This reflects the RNR model, the risk and needs factors setting the stage, and additionally “the responsivity principle is concerned with the ‘how’ to change” (Bourgon and Gutierrez 2013, p. 262). The working alliance in the supervision plays a role in the collaborative process of change. Both the offender and the PO need to play their part in order to build a trusting relationship without reactance. For this kind of relationship, the offender should be able to rely on the PO, who needs to be trustworthy, often indicated in probation practice as: “do as you say and say as you do.” This “change environment” (Bourgon and Gutierrez 2013) needs to be a safe environment, in which emotions can be expressed and explored (Youssef 2017), and the PO is available not only as a guardian, but as a helper or a teacher too (Sturm et al. 2020b). Because relational variables are commonly important predictors of supervision outcomes, at some point, it would be worth considering giving greater credence to systematically selecting POs for professional training that are most likely to develop a trustful environment in their supervision.

Future studies will need to use randomized controlled trials to examine the causal relationship and with multiple time-points to examine the mechanism underlying the present findings. It is also important to recruit participants with a variability in potential confounders. To explore the meaning of trust together with restrictions and goal-setting for the offenders in more detail, qualitative studies into the change of the working alliance factors during the course of the supervision are needed. In these studies, the perspective of both the PO and the offender needs to be included.

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Declarations

Ethical Approval All procedures performed in this study were in accordance with the ethical standards of the Helsinki Declaration and its later amendments or comparable ethical standard.

Informed Consent Informed consent was obtained from all individual participants included in the study.

Conflict of Interest The authors declare no competing interests.

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