

Increasing self-esteem and empathy to prevent violent radicalization: a longitudinal quantitative evaluation of a resilience training focused on adolescents with a dual identity

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Abstract

Quantitative results are reported of a longitudinal evaluation of a resilience training as a possible method to prevent violent radicalization (Diamant; SIPI, 2010). A total of 46 male and female Muslim adolescents and young adults with a migrant background participated. Results show that the training significantly increased participants' reports of agency and a marginal increase was found in reported self-esteem, empathy and perspective taking but also narcissism. Attitudes toward ideology-based violence and own violent intentions were significantly lower after the training than before. Higher reports of empathy were related to less positive attitudes toward ideology-based violence. These results suggest that an intervention aimed at empowering individuals in combination with strengthening empathy is successful in countering violent radicalization.

Many young individuals in Western countries, in particular youngsters with a Muslim background, struggle with their dual identity and difficulties that can arise from conflicting interests and expectations. As a result, a small minority may become attracted to a radical ideology as has become evident from the increasing number of so-called “Foreign Jihadi fighters” in Syria and Iraq coming from Europe and the United States (Schmidt & Schmitt, 2014). As a consequence, there has been an increase in interest from policy makers in programs that prevent radicalization leading to ideology-based violence. For example, in the Netherlands the National Coordinator for Security and Counterterrorism (Dutch Ministry of Security and Justice) voiced his interest in programs aimed at making particular Muslim communities more resilient against radicalization (NCTV, 2013). In addition, at the European level there has recently been a call for more attention to prevention of radicalization (Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 2014).

In Europe and elsewhere, a range of programs aimed at preventing radicalization have now been designed and implemented (Bovenkerk, Van Hemert, & Quint, 2013; Lub, 2013;

see also the Radicalisation Awareness Network, 2014, for an overview). However, studies testing the effectiveness of these programs are rare due to practical constraints or they do not meet scientific standards (Lindekilde, 2012; Lub, 2013; Marret, Feddes, Mann, Doosje, & Griffioen-Young, 2013; Wijn, 2012). To increase knowledge about underlying socio-psychological mechanisms involved in radicalization and to examine effectiveness of counter radicalization programs, it is crucial to conduct effectiveness research, for the sake of both theoretical advancement and practical implications (see also Bovenkerk et al., 2013; Vermeulen & Bovenkerk, 2012).

The aim of the present study is twofold. First, we report quantitative results of a longitudinal evaluation of a resilience training named Diamant (Dutch for diamond). Before the start of this training, we explicated the aims of the training together with its developers. Based on a training description and instruction materials (SIPI, 2010), it was agreed that the most important aims of the training were to strengthen participants' self-esteem and to increase agency, perspective taking skills, and empathy. In addition, a reduction in relative deprivation and disconnectedness to society was expected. As will be explained below, together these changes were expected to result in more resilience against violent radicalization.

The second aim of this study is more theoretical in that we examine the possibility that the training might have unwanted side effects. That is, many interventions focused on preventing radicalization aim at “empowering” individuals by increasing their self-esteem. However, it has been suggested that empowerment may actually boost radicalization by increasing narcissism (Lub, 2013). To our knowledge, associations between self-esteem, narcissism, and violent radicalization have not yet been directly investigated.

A dual identity in a multicultural society

The training *Diamant* has been developed based on the observation that many young Muslims in the Netherlands feel treated unjustly because of their ethnicity or religion. Previous research in the Netherlands (e.g., Buijs, Demant, & Hamdy, 2006; Feddes, Mann, De Zwart, & Doosje, 2013; Maliepaard & Phalet, 2012; Verkuyten & Yildiz, 2007, 2009) and in other Western countries (e.g., King & Taylor, 2011; Moghaddam, 2005; Weine et al., 2009) emphasizes the possible vulnerability of young Muslims with so-called dual identities. The image of the Muslim as the “negative other” has led to tensions in the Netherlands and other Western countries (Meret & Betz, 2009; Poynting & Mason, 2007; Van der Valk, 2013; Verkuyten & Yildiz, 2007, 2009). According to Social Identity Theory (Tajfel & Turner, 1986), people derive part of their self-esteem from the social groups they belong to. Generally speaking, people are inclined to perceive their group as better than most other groups and this results in positive emotions such as happiness and pride. However, when a particular group membership is combined with feelings of relative deprivation (the perception that one’s group is being treated less well than other groups; Crosby, 1976; Grant & Brown, 1995), this may result in negative emotions such as anger and frustration (Feddes, Mann, & Doosje, 2012). As a consequence, individuals can distance themselves from society and become attracted to criminal behavior or violent radicalization (see also Buijs et al., 2006; De Wolf & Doosje, 2010; Doosje, Loseman, & Van den Bos, 2013; Doosje, Van den Bos, Loseman, Feddes, & Mann, 2012; King & Taylor, 2011; Miner & Munns, 2005; Moghaddam, 2005; Weine et al., 2009). This is illustrated by a recent study by Doosje, Loseman, and Van den Bos (2013) that showed feelings of relative deprivation among Muslim adolescents in the Netherlands to be related to more positive attitudes toward ideology-based violence.

Enhancement of self-esteem and agency

The *Diamant* training consists of three modules conducted over a period of 3 months. The first module ‘Turning Point’

and the psychological processes targeted in this module are discussed in this section. The second and third modules ‘Intercultural Moral Judgment’ and ‘Intercultural Conflict Management’ are described in the next section. In all modules, certified trainers work with adolescents in groups of about 15 participants. The first goal of *Diamant* is to help participants find a job, internship, or education, thereby trying to reduce feelings of relative deprivation and social disconnectedness. For this purpose, in the first module youngsters work on their social and professional competences while strengthening their identity by discussing their family history and how they experience their dual identity. It is expected that through this method, self-esteem and agency will increase.

Many interventions aimed at preventing radicalization focus on “empowering” individuals by increasing their self-esteem (see for an overview Lub, 2013) or by working on individuals’ sense of agency (perceptions of competence, effectiveness, personal control, and capacity to make things happen; Dumka, Stoerzinger, Jackson, & Roosa, 1996). The idea is that a lack of self-esteem and agency is related to feelings of uncertainty and lack of personal significance (“Who am I? Where do I belong? What is the purpose of my life?”) which has been related to radicalization (Doosje et al., 2012, 2013; Hogg, Sherman, Dierselhuis, Maitner, & Moffitt, 2007; Kruglanski et al., 2013). Following this rationale, increasing self-esteem and agency may, therefore, counter (violent) radicalization. However, interventions that boost self-esteem may have unwanted side effects as they can also increase levels of narcissism, aggressiveness, or antisocial behavior (Lub, 2013). Furthermore, combined with a destructive ideology, empowerment may result in the use of violence to reach one’s ideals (Kruglanski et al., 2013).

Whereas there is a lack of data on how self-esteem and agency influence ideology-based radicalization, a rich literature does exist on the relationship between self-esteem and aggressive behavior. Traditional approaches suggest that low self-esteem is associated with aggression. In line with this, Donnellan, Trzesniewski, Robins, Moffitt, and Caspi (2005) found a relationship between low self-esteem and aggression, antisocial behavior, and delinquency across three studies. One study included data from a longitudinal investigation of health and behavior in a complete birth cohort, which showed that low self-esteem in adolescence predicted criminal behavior in adulthood (see also Trzesniewski et al., 2006).

In contrast, a review of the literature about aggression, crime, and violence by Baumeister, Smart, and Boden (1996) contradicts the view that low self-esteem is an important cause of violence. Instead, their results indicate that high self-esteem in combination with threatened egotism (i.e., favorable self-appraisals) is the strongest predictor of violent behavior. In two other studies, Bushman and Baumeister (1998) found no relationship between self-esteem and aggression. However, they reported that the combination between being insulted

and reporting high narcissism were strongly related to aggression. In line with this, Bushman et al. (2009) report evidence from two experimental studies and a field study that persons who score high on narcissism were most aggressive when they were insulted or humiliated. Importantly, when controlling for narcissism, Bushman et al. (2009) did not find a significant relationship between either low or high self-esteem and violent behavior. Based on this overview, a positive relationship can be expected between self-esteem and support for ideology-based violence. However, this relationship will become weaker when controlling for narcissism. In regard to agency, similar findings can be expected as individuals reporting high narcissism also report high agency, which is a concept related to self-esteem (Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004).

Enhancement of empathy and perspective taking

In the second and third module of Diamant—"Intercultural Moral Judgment" and "Intercultural Conflict Management"—participants reflect on their own opinions about what is "good" and "bad" behavior in comparison to what is acceptable behavior in society as a whole. For example, possible disagreements between their religious standards and generally accepted behavior in Dutch society are discussed, such as alcohol consumption and the role of females in society. Participants are taught to think critically about their own and other's behavior and how to deal best with potential conflicts. Empathy and perspective taking, therefore, are expected to increase after completion of these modules.

Empathy refers to the capacity to understand and respond to the unique affective experiences of another person (Batson, Fultz, & Schoenrade, 1987; Lamm, Batson, & Decety, 2007). Perspective taking refers to the cognitive ability to anticipate the behavior and reactions of other people (Davis, 1983, p. 115) and is related to less egocentric and more other oriented behavior (Davis, 1983; Kohlberg, 1976; Lamm et al., 2007; Piaget, 1932). Research in the field of intergroup relations has shown that both empathy and perspective are associated with less prejudice and stereotyping. For example, a meta-analysis by Pettigrew and Tropp (2008) including 54 studies and 91 independent samples showed that empathy and perspective taking could explain a reduction of prejudice after intergroup contact. Empathy and perspective taking are often mentioned as important variables to focus on in interventions to improve intergroup relations, besides stimulating prosocial and less aggressive behavior (e.g., Davis, 1983; Galinsky & Moskowitz, 2000; Gibbs, Potter, Barriga, & Liau, 1996; Jolliffe, & Farrington, 2004, 2006; Richardson, Hammock, Smith,

Gardner, & Signo, 1994). All in all, these results would suggest a negative relation between empathy and perspective taking and violent radicalization.

Predictions of the present study

Based on previous research (Baumeister et al., 1996; Bushman & Baumeister, 1998; Bushman et al., 2009; Sedikides et al., 2004), we expect that higher reported self-esteem and agency are not associated with more positive attitudes toward ideology-based violence or more violent intentions when controlling for narcissism (*Hypothesis 1*). In addition, we expect higher reported levels of empathy and perspective taking to be negatively related to attitudes toward ideology-based violence and own violent intentions (*Hypothesis 2*). Finally, we expect positive associations between reported levels of relative deprivation and social disconnectedness and the outcome variables attitudes toward ideology-based violence and reported own violent intentions (*Hypothesis 3*).

Based on the overview given above, we expect that participants will report higher levels of self-esteem, agency, empathy, and perspective taking after the training than before the training (*Hypothesis 4a*). In addition, we expect that training module 1 (Turning Point) will be responsible for an increase in reported self-esteem and agency (*Hypothesis 4b*) and that reports of empathy and perspective taking will be higher after completion of modules 2 and 3 (Intercultural Moral Judgment and Intercultural Conflict Management; *Hypothesis 4c*). We expect reports of relative deprivation, social disconnectedness, and own ideology-based violent intentions to decrease and attitudes toward ideology-based violence to become less positive after the training compared to levels before the training (*Hypothesis 5*).

Method

Participants

A total of 46 adolescents and young adults (aged 14 to 23, $M = 16.93$, $SD = 2.76$) with a migrant background participated in the training divided over three groups between November 2011 and June 2013. The majority of participants were of Moroccan background (85%). In addition, there were participants with Turkish (11%), Surinamese (1%), and Pakistani (1%) background. All participants indicated they were Muslim. Three groups participated in the study: Group I and Group II included youngsters who followed the training in a community centre. Group III included high school students. Information about the groups and the participants is provided in Tables 1 and 2.

Participants were directed to the training via the municipality (e.g., unemployment office), via trainers or

Table 1 Overview of the Groups Studied and Demographic Information of Participants

Group	<i>n</i>	Mean age (<i>SD</i>)	Percentage male (%)	First generation immigrant (%)	Second generation immigrant (%)	Context
I	12	19.33 (1.92)	67	42	58	Community centre
II	16	18.27 (2.12)	63	12	88	Community centre
III	18	14.22 (0.43)	100	6	94	High school

Table 2 Overview of the Percentage of Participants in Each Group that Took Part in the Premeasurement (T1), Between-measurement (T2), Post-measurement (T3), and Follow-up Measurement (T4)

	T1 (%)	T2 (%)	T3 (%)	T4 (%)
Group I	100	83	92	83
Group II	100	44	56	-
Group III	89	83	78	-

peers (Groups I and II) or via the school board (Group III). Before starting the training, trainers held a long and serious intake interview with potential participants. In case individuals were not sufficiently motivated to participate or showed signs of mental illness or learning problems, they were redirected.

Before the training started, the trainers informed participants about the goals of the study and explained that it was part of a larger project investigating processes of radicalization, and that participation in the study was anonymous. All participants (or parents when the respondent was below 18) signed an informed consent form before the training started. After the study, participants were thanked for their participation with a set of pens or a cinema voucher.

Design and procedure

A longitudinal research design was applied including four measurement points: before the start of the training a pre-measurement was conducted (henceforth referred to as T1), after the first module (Turning Point) was completed, a between-measurement was conducted (T2), and after the whole training was completed, a postmeasurement was conducted (T3). Due to practical and time restraints a follow-up measurement (T4) was conducted with Group I only.

Questionnaire

To measure the variables of interest participants were asked to complete a questionnaire. All variables were measured on a 5-point Likert scale ranging from 1 (*do not agree at all*) to 5 (*agree completely*). Where necessary, questions were adapted to the ethnic and religious back-

ground of participants. Below, more information about the scales is given. Reported reliabilities are based on the T1 data.

Individual relative deprivation

This variable was measured by four items from Doosje et al. (2013). An example item is: "Compared to other people in the Netherlands I am treated less well." The scale had a good reliability (Cronbach's α was .71).

Collective relative deprivation

This variable was measured by four items ($\alpha = .70$), which were also derived from Doosje et al. (2013). An example is: "In the Netherlands people with a [respective ethnic background] are discriminated against."

Social disconnectedness

To get an indication of social disconnectedness, participants were asked for the extent to which they felt connected to the Netherlands and the neighbourhood in which they lived (Doosje et al., 2013). These items were recoded such that a higher score indicated more social disconnectedness. The correlation between both items was significant ($r = .53$, $p < .001$).

Self-esteem

This variable was measured with four items derived from the Rosenberg Self-Esteem Scale (Rosenberg, 1965). An example item is: "I have a number of good qualities" ($\alpha = .92$).

Agency

Levels of agency were measured by five items derived from Dumka et al. (1996). An example is: "I am aware of my strong and weak points" ($\alpha = .85$).

Narcissism

This variable was measured by four items derived from the Narcissistic Personality Inventory (Ames, Rose, & Anderson,

Table 3 Means on the Variables at T1, T2, T3, and T4 for all Groups (Note that Only Group I Participated at T4) and Difference Between Means at T1 and T3

	T1 M (SD)	T2 M (SD)	T3 M (SD)	T4 (only Group I) M (SD)	Difference between T1 and T3
1. Ind. Rel. Dep.	2.77 (1.08)	2.57 (1.03)	2.43 (1.09)	2.33 (.84)	-1.50 (31)
2. Coll. Rel. Dep.	3.24 (1.13)	3.27 (1.01)	3.15 (1.19)	2.88 (1.09)	-.87 (30)
3. Soc. Disc.	2.02 (1.13)	2.30 (1.11)	1.96 (.97)	2.05 (.91)	-.67 (32)
4. Self-esteem	4.06 (.96)	4.49 (.73)	4.40 (.69)	4.33 (1.01)	1.88 (31)
5. Agency	4.09 (.87)	4.43 (.72)	4.25 (.70)	4.18 (1.15)	2.41 (31)
6. Narcissism	2.81 (1.12)	3.31 (.85)	3.23 (.99)	2.98 (.79)	1.93 (31)
7. Empathy	3.06 (1.25)	3.38 (1.36)	3.54 (1.52)	4.18 (.92)	1.76 (31)
8. Persp. Taking	3.47 (1.19)	3.72 (1.03)	3.97 (1.03)	4.45 (.96)	2.03 (31)
9. Att. Id. Viol.	3.03 (1.41)	3.06 (1.40)	2.50 (1.52)	1.98 (1.38)	-2.16 (31)
10. Own Viol. Int.	2.60 (1.33)	2.36 (1.59)	2.13 (1.43)	1.73 (1.11)	-2.60 (29)

Note. 1= Individual Relative Deprivation, 2= Collective Relative Deprivation, 3= Social Disconnectedness, 8 = Perspective taking, 9 = Attitude toward Ideology-based Violence by Others, 10= Own Violent Intentions.

2006; Emmons, 1984). An example is: "I am a special person" ($\alpha = .77$).

Empathy

This variable was measured with four items derived from Davis (1983). An example is: "If something bad happens to non-Muslims, I would feel sorry for them" ($\alpha = .90$).

Perspective taking

This variable was measured by two items also derived from Davis (1983). An example is: "I can understand how non-Muslims think even though I sometimes disagree." The correlation between these items was high ($r = .60, p < .001$).

Attitude toward ideology-based violence by others

Following Doosje et al. (2013) two scales were used to measure violent radicalization. The first scale measured the attitude toward ideology-based violence using four items. An example item is: "If the prophet Muhammad is seriously insulted in a Dutch newspaper, I would understand it if Muslims react by using violence against others" ($\alpha = .91$).

Own violent intentions

The second scale measuring violent radicalization captured own violent intentions. These were measured by four items also derived from Doosje et al. (2013). An example is: "If the prophet Muhammad is seriously insulted in a Dutch newspaper, I myself am willing to use violence against others" ($\alpha = .88$).

Results

Preliminary analyses on attrition effects are presented first. Subsequently, the associations between the different variables are examined. Then, the effects of the training are presented by comparing measurements before and after the training. Analyses were all performed with IBM SPSS version 20.

Selective attrition effects

In Table 2, percentages of respondents who participated at each measurement point are reported. Each group suffered some dropout of participants who, for example, participated at T1 but not at T3. To examine whether the participants who dropped out had different scores on the variables compared to the participants who participated until the end of the study, multivariate analyses of variance were conducted. We compared those participants who participated at T1 and at T3 ($n = 44$, two participants did not participate at T1) with those participants who participated only at T1 ($n = 11$). Selective attrition (the percentage of participants that dropped out after T1) was 25%. The results indicated no significant differences on the variables (all F s < 2.15 , ns) with the exception of a marginal significant difference on perspective taking ($F(1, 38) = 3.50, p = .069$). Those participants who participated at both measurement points tended to report somewhat higher levels of perspective taking at T1 ($M = 3.76, SD = 1.20$) than those who only participated at T1 ($M = 3.00, SD = .97$).

Descriptives

In Table 3, the means and standard deviations are reported for all participants at T1, T2, T3, and T4. In Table 4, correlations between the variables at T1 are reported. A first exploration of the correlations shows that, in line with *Hypothesis 1* the association between self-esteem and own violent

Table 4 Intercorrelations Between all Constructs before the Start of the Training (T1)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Ind. Rel. Dep.	1	.35*	-.05	.17	.17	.10	-.04	.24	-.05	.07
2. Coll. Rel. Dep.		1	.12	.14	.07	-.03	.15	.28 [†]	.10	.03
3. Soc. Disc.			1	.06	-.02	-.01	-.12	.06	.01	.09
4. Self-esteem				1	.63***	.34*	-.42**	.04	.22	.26 [†]
5. Agency					1	.32*	-.39**	-.03	.21	.32*
6. Narcissism						1	-.19	-.03	.44**	.20
7. Empathy							1	.21	-.38*	-.32*
8. Persp. Taking								1	.13	-.01
9. Att. Id. Viol.									1	.57***
10. Own Viol. Int.										1

Note. 1 = Individual Relative Deprivation, 2 = Collective Relative Deprivation, 3 = Social Disconnectedness, 7 = Empathy, 8 = Perspective taking, 9 = Attitude toward Ideology-based Violence by Others, 10 = Own Violent Intentions; [†] $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5 Results of Regression Analyses of the Independent Variables Predicting Attitude toward Ideology-based Violence by Others and Own Violent Intentions (Standardized Coefficients are reported) before the Start of the Training (T1)

	Attitude toward ideology-based violence by others	Own violent intentions
1. Individual relative deprivation	-.23	.02
2. Collective relative deprivation	.19	-.01
3. Social disconnectedness	-.08	.07
4. Self-esteem	-.05	.06
5. Agency	-.00	.19
6. Narcissism	.42**	.10
7. Empathy toward non-Muslims	-.41*	-.20
8. Perspective taking	.26 [†]	.07

Note. [†] $p < .1$, * $p < .05$, ** $p < .01$.

intentions was marginally significant and positive ($r = .26$, $p = .099$). In addition, agency was positively related to own violent intentions ($r = .32$, $p = .05$). Narcissism was positively related to attitude toward ideology-based violence ($r = .44$, $p < .01$) and also to self-esteem ($r = .34$, $p < .05$) and agency ($r = .32$, $p < .05$). This indicates that those reporting high self-esteem and agency also report higher levels of narcissism and more violent intentions.

In line with *Hypothesis 2*, the correlations show that higher reports of empathy are negatively related to attitudes toward ideology-based violence ($r = -.38$, $p < .05$) and to own violent intentions ($r = -.32$, $p < .05$). Contrary to our expectations, no negative associations between perspective taking and own violent intentions or attitude toward ideology-based violence were found. Furthermore, the correlations were not in line with *Hypothesis 3*, as there were no significant associations between relative deprivation or social disconnectedness and, respectively, attitudes toward ideology-based violence and own violent intentions.

Testing a regression model for all variables at T1

We performed two sets of regression analyses to examine whether reports of individual and relative collective deprivation, social disconnectedness, self-esteem, agency, narcissism, empathy, and perspective taking together predicted, respectively, the attitude toward ideology-based violence and reported own violent intentions. The results are reported in Table 5. Taken together, the first model explained 39% of the variance of attitude toward ideology-based violence and was significant ($F(8, 40) = 2.56$, $p < .05$). The second model explained 17% of the variance of own violent intentions and was not significant ($F(8, 39) = .78$, ns).

In line with *Hypothesis 1*, reported self-esteem and agency did not found significantly predict attitude toward ideology-based violence (respective beta's: $-.05$ and $.00$, ns) nor own violent intentions (respective beta's: $.06$ and $.19$, ns). In contrast, narcissism did positively predict attitude toward ideology-based violence ($\beta = .42$, $p < .01$). Thus, participants who reported higher levels of narcissism also had a more positive attitude toward ideology-based violence. Bootstrapping analyses (Preacher & Hayes, 2004) showed an indirect effect of narcissism on own violent intentions via attitude toward ideology-based violence (5,000 bootstrap samples; 95% confidence interval: $.12$ to $.63$; evidence for an indirect effect exists when zero is not included in the interval). This means that higher reports of narcissism were related to a more positive attitude toward ideology-based violence which was, in turn, related to higher reports of violent intentions.

In line with *Hypothesis 2*, reported empathy was negatively related to attitude toward ideology-based violence ($\beta = -.41$, $p < .05$). In addition, bootstrapping analyses showed a negative indirect effect of reported empathy on own violent intentions via attitude toward ideology-based violence (5,000 samples; 95% confidence interval: $-.53$ to $-.06$). This means that individuals who reported higher empathy indicated less positive attitudes toward ideology-based violence and,

therefore, less violent intentions. In contrast to *Hypothesis 2*, a trend was found for perspective taking: those individuals who reported to be better able to take the perspective of non-Muslims also tended to have slightly more positive attitudes toward ideology-based violence ($\beta = .26, p = .09$).

No evidence was found supporting *Hypothesis 3*, as no positive associations between reports of relative deprivation and social disconnectedness and the outcome variables attitude toward ideology-based violence and own violent intentions were found (all F s $< .19, ns$).

Effect of the training over time

Paired sample t tests were first performed to test *Hypotheses 4a–c* and *Hypothesis 5*. The differences in means between T1 and T3 are shown in Table 3. In line with *Hypothesis 4a*, a marginal increase of reported self-esteem ($t(31) = 1.88, p = .070, d = .19, 95\% \text{ CI } [-.73, .03]$), empathy ($t(31) = 1.76, p = .088, d = .28, 95\% \text{ CI } [-1.05, .08]$) and perspective taking ($t(31) = 2.03, p = .051, d = .19, 95\% \text{ CI } [-.78, .00]$) was found when comparing T1 and T3. In addition, a significant increase in reported agency was found ($t(31) = 2.41, p < .05, d = .12, 95\% \text{ CI } [-.53, -.04]$). Next, we examined the predicted effects of the specific modules. In line with *Hypothesis 4b*, respondents indeed reported significantly higher levels of self-esteem ($t(26) = 2.23, p < .05, d = .17, 95\% \text{ CI } [-.73, -.03]$) and marginally significantly higher levels of agency ($t(28) = 1.87, p = .072, d = .13, 95\% \text{ CI } [-.51, -.02]$) at T2 compared to T1. *Hypothesis 4c* was not confirmed; participants reported equally high levels of empathy ($t(29) = .23, ns$) and perspective taking ($t(27) = -1.00, ns$) when comparing T2 and T3.

In line with *Hypothesis 5*, attitude toward ideology-based violence ($t(31) = -2.16, p < .05, d = .30, 95\% \text{ CI } [.04, 1.26]$), as well as reported own violent intentions ($t(31) = -2.60, p < .05, d = .21, 95\% \text{ CI } [.12, .97]$) decreased significantly when comparing T1 and T3. No significant differences between T1 and T3 were found on reports of individual relative deprivation ($t(31) = -1.50, ns$), collective relative deprivation ($t(30) = -.87, ns$), or social disconnectedness ($t(32) = -.67, ns$). We did not formulate a specific hypothesis in regard to narcissism, however, reports of narcissism marginally increased between T1 and T3 ($t(31) = 1.93, p = .063, d = .19, 95\% \text{ CI } [-.74, .02]$).

To examine effects of the intervention on the longer term, we compared the T3 measurement with the T4 follow-up measurement 3 months later. T tests showed no significant differences between the two measurements (all t s $< 1.70, ns$). However, because only 12 participants took part at T4 this result should be treated with caution.

Longitudinal analyses

Based on the results outlined above it was shown that in particular narcissism and empathy play an important role in

regard to violent radicalization. As a final step in the analyses, we tested whether changes in reported empathy, self-esteem, agency, and narcissism over time predicted a less positive attitude toward ideology-based violence. Following Holbert and Stephenson (2002), we did not use structural equation modeling because of the relatively small sample size. Instead we conducted a series of regression analyses following the method outlined by Baron and Kenny (1986, see also Feddes, Noack, & Rutland, 2009). In this approach, associations between variables measured after the training (T3) are investigated while controlling for measurements before the training (T1). We first regressed attitude toward ideology-based violence at T3 on empathy, narcissism, self-esteem, and agency at T3 while controlling for the T1 measurements. Then, we regressed respectively empathy, narcissism, self-esteem, and agency at T3 on all the predictor variables at T1. The results are reported in Figure 1 (only significant associations are depicted). It can be seen that when controlling for T1 measurements, reported empathy at T3 is negatively related to attitude toward ideology-based violence ($\beta = -.50, p < .05$). In contrast, reported narcissism, self-esteem, and agency at T3 were not associated with violent attitudes at T3 (respective β s were $-.22, .03$, and $-.34, ns$). These results support the prediction that empathy—but not narcissism, self-esteem, or agency—was significantly associated with less positive attitudes toward ideology-based violence over time.

The analyses were repeated with reported own violent intentions at T3 as outcome variable but no significant effects were found at T3 for empathy ($\beta = -.22, ns$), narcissism ($\beta = -.11, ns$), self-esteem ($\beta = .32, ns$), or agency ($\beta = -.32, ns$). However, bootstrapping analysis showed a negative indirect effect of empathy at T3 on own violent intentions at T3 via attitude toward ideology-based violence at T3 (5,000 samples; 95% confidence interval: $-.65$ to $-.10$). This replicates our earlier presented findings at T1 (see Table 5) and suggests that individuals who reported higher levels of empathy after the training had less positive attitudes toward ideology-based violence and reported less violent intentions.

Discussion

This evaluation study supports our predictions that resilience training Diamant significantly increases reported agency while a marginal significant increase of reported self-esteem, empathy, and perspective taking was found. The data also supported the notion that the training counters violent radicalization as attitudes toward ideology-based violence and own violent intentions decreased significantly over time. A negative side effect was found as the data showed a marginally significant increase of reported narcissism. Reports of relative deprivation and social disconnectedness did not change over time. Based on longitudinal analyses, it can be

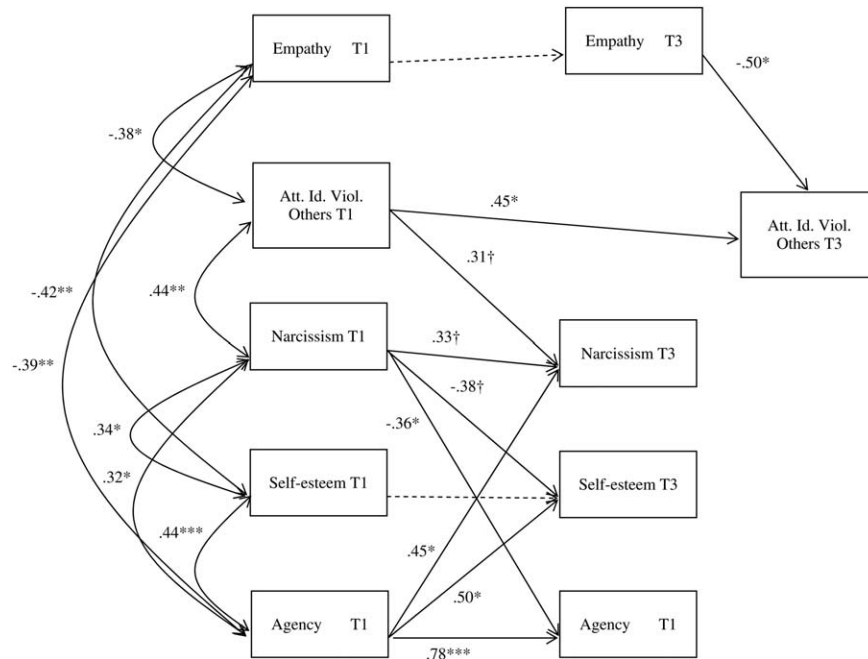


Figure 1 Multiple regression analyses of empathy, narcissism, self-esteem, and agency on attitude toward ideology-based violence by others after the training (T3), controlling for the measurement before the training (T1). *Notes.* Only significant paths and correlations are depicted; path values are standardized beta weights; $^\dagger p < .1$; $*p < .05$; $**p < .01$; $***p < .01$.

concluded that reports of empathy play an important role in decreasing support for ideology-based violence.

A closer inspection of the data at time points 1 and 2 confirmed that Turning Point (training module one) seemed to be mainly responsible for the increase in reported self-esteem and agency over time. However, when comparing measurements halfway (T2) and after (T3) the training, it can be concluded that Intercultural Moral Judgment (training module two) and Intercultural Conflict Management (training module three) did not have the predicted positive effect on empathy and perspective taking. However, empathy and perspective taking did increase when comparing T1 and T3 data (see also the means in Table 3). These results suggest that even though the training as a whole is beneficial in regard to empathy and perspective taking, this could not be attributed to a particular module. Instead, it seems that the combination of the three modules resulted in an increase on these variables.

In regard to associations between reported self-esteem, agency, and support for ideology-based violence positive correlations were found. When tested in one model including narcissism, however, it was found that reported narcissism—but not self-esteem or agency—was strongly associated with attitude toward ideology-based violence. These findings are in line with previous work by Bushman et al. (2009) who showed that, when

controlling for narcissism, there is no significant relation between self-esteem and aggression. This suggests a curvilinear association between self-esteem and radicalization; a moderate level of self-esteem is associated with resilience to violent radicalization while too high levels of self-esteem (narcissism) can make individuals more susceptible to radicalization.

Importantly, the longitudinal analyses (see Figure 1) show that before the training (T1), a positive association existed between reported narcissism and attitude toward ideology-based violence while this relation was not significant after the training (T3). Reported empathy, however, was negatively related to attitude toward ideology-based violence both before and after the training. These results are promising as they suggest that an intervention that aims to increase levels of empathy is successful in overcoming possible negative side effects of empowering individuals (increase in narcissism).

Noteworthy, neither reported personal nor collective relative deprivation was significantly related to radical tendencies in the present study. One explanation for this finding is that relative deprivation is a background variable that does not directly influence attitudes toward the use of violence to reach one's goals (Moghaddam, 2005). The present findings are in line with a previous study by Doosje et al. (2013) among Muslim youth in the Netherlands who found low or nonsignificant correlations between relative deprivation and

radical tendencies. Instead, relative deprivation was found to reduce radical tendencies indirectly by increasing feelings of threat, perceptions of injustice, and perceived illegitimacy of authorities. These latter factors, in turn, were related to more positive attitudes toward ideology-based violence and more violent intentions. This supports the notion that relative deprivation is a distal factor influencing attitudes toward ideology-based violence.

Reports of experienced social disconnectedness were found to be low and, in contrast to previous findings by Doosje et al. (2013), this variable was not related to radical tendencies. A possible explanation is that at the time of the premeasurement participants were already aware that the trainers of Diamant would help them finding work or an education which may have affected their answers. Also, one of the two items measuring social disconnectedness asked for the perceived connection with the neighborhood, which was found to be high. This could have compensated any feelings of disconnectedness to the country as a whole.

An unexpected finding was that higher reports of perspective taking were associated with more positive attitudes toward ideology-based violence. This stands in sharp contrast with the finding in regard to empathy. Recent findings by Bruneau and Saxe (2012) may shed some light on this result. These authors note that status differences in groups may moderate the effect of perspective taking versus perspective giving. In a study simultaneously conducted in Tel Aviv and Ramallah, they found that Israeli's bias against Palestinians reduced in a condition where they had to take the perspective of this lower status out-group. Interestingly, bias among Palestinians against Israeli's only reduced in a perspective giving and not in a perspective-taking condition. That is, Palestinians had a more favorable impression of the high status Israeli out-group after they were given a chance to communicate difficulties of life in their community. These patterns were also observed within (low status) Mexican immigrants and (high status) White Americans in Arizona. The authors concluded that the benefits of this intervention lay in "feeling heard." The results of the present study suggest that perspective taking may actually lead to a more radical attitude as it may trigger negative sentiments toward the non-Muslim high status majority. This is also in line with findings reported by Bruneau and Saxe who report that attitudes among Mexican immigrants toward the White Americans worsened following perspective taking.

Limitations and future directions

A clear limitation of the study is that the participants were not members of extremist groups and did not show

signs of violent radicalization. They were described as "possibly vulnerable to radicalization." It has yet to be investigated whether training Diamant is effective in deradicalizing actual violent extremists. One context in which this training could be implemented and further tested is in detention (centers), which has been identified as possible breeding grounds for radicalization (Mulcahy, Merrington, & Bell, 2013). Not much is known about effectiveness of deradicalization programs (Horgan & Braddock, 2010). It would be valuable, therefore, to investigate whether this training is able to reduce support for ideology-based violence among individuals who have already shown signs of violent radicalization.

Another limitation of the study is that no control group was included. It is often not possible to include a control group in these studies due to practical limitations (Lub, 2013). Because of this, potential positive or negative effects may have been undetected. For example, meta-analytic data has shown that high-risk youth, compared to low-risk youth, are especially vulnerable to peer aggregation as peer influence can actually lead to escalation of problem behavior in young adolescents (Dishion, McCord, & Poulin, 1999). Also we cannot exclude the possibility that demand characteristics influenced the results of the training. That is, participants knew beforehand that they would receive a training, which was aimed at increasing self-confidence, which dealt with judgment of cultural differences, and in which they would learn how to deal with conflicts. In addition, they were aware that the evaluation study was part of a larger project investigating radicalization processes. This issue could also be overcome in future research by including a control group.

Finally, due to small numbers, no examination could be made of age or context effects of the study. For example, participants were examined either in the context of community centres or in high schools and could, therefore, have differed on several outcomes in terms of age and background variables (having an education or not).

Despite these limitations, the present study provides supportive evidence for the notion that increasing self-esteem and agency while promoting empathy is effective in countering violent radicalization. This combined approach seems fruitful as it can overcome possible negative side effects of empowerment interventions such as increased narcissism.

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