Belief in a Just World, Causal Attributions, and Adjustment to Sexual Violence

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What influence do the personal belief in a just world (i.e., the perception that one usually gets what one deserves) and different kinds of causal attributions have on adjustment to sexual violence? Using a sample of N = 62 *victims of sexual aggression (mean* age = 21.7) *it was shown that respondents were better able to adjust to their experience of sexual violence the higher their personal belief in a just world. Moreover, the more respondents attributed their victimization to situational circumstances (external attributions) and the less they attributed their victimization to their character and personality (characterological self-attributions), the less they felt distressed by past victimization. The degree to which participants attributed their victimization to their own concrete behavior (behavioral self-attribution) was not related to their adjustment. Further analyses showed that the influence of the personal belief in a just world was mediated by the three attribution styles. Additionally, the adaptiveness of external attributions was moderated by participants' just world belief.*

KEY WORDS: belief in a just world; rape; sexual aggression; attributions.

Rape is one of the most adverse experiences a woman can encounter in her life. Therefore, the question of how to cope with sexual violence is of both practical and scientific importance. Extending previous research on adjustment to sexual victimization (for overviews see Dalbert, 2001; Krahé, 2001), the present article seeks to answer the following questions: (1) What influence does the

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belief in a just world have on a victim's capacity to deal with sexual violence? (2) What kinds of causal attributions are adaptive or maladaptive when suffering from sexual violence? (3) In what way are the belief in a just world and victims' causal attributions related to the amount of distress experienced by victims of sexual violence?

Belief in a Just World and Dealing with Sexual Violence

The concept of a belief in a just world was introduced by Lerner (1965), and it refers to the degree to which people think that the world is fair and just (i.e., that people usually get what they deserve and deserve what they get). In recent years, the relationship between believing in a just world (BJW) and dealing with negative critical life events has been studied in a number of domains (e.g., dealing with cancer, long-term unemployment, and having a handicapped child; for an overview see Dalbert, 2001). However, the relationship between the belief in a just world and adjustment to sexual violence has not been investigated systematically. The only possible exception is a study by Libow and Doty (1979), who found a strong negative relationship between the belief in a just world and victims' tendencies to derogate themselves as a reaction to experiencing sexual violence. Yet, conclusions from this study are at best preliminary, because the sample consisted of only seven participants.

From a theoretical perspective, contradictory predictions concerning the relationship between the belief in a just world and adjustment to sexual violence seem plausible. On the one hand, it might be argued that a strong belief in a just world is more of a hindrance than a help when dealing with victimization. Becoming the victim of a rape is not only horrible in itself, but it can also be regarded as an extremely unjust event. From this line of reasoning, it can be argued that victims who strongly believe that the world is a just place do not only have to recover from the immanent stress that is caused by their victimization, but that they additionally have to deal with the fact that their belief in a just world is dramatically threatened. Consequently, victims might try to protect their belief in a just world by blaming themselves for their victimization and by defining their fate as just and legitimate. However, as previous research has shown, blaming oneself for being sexually aggressed is not a successful way to deal with such a victimization. More generally, Jost and Hunyady (2002) have argued that the assumption of the world as being a fair place might lead people to justify an adverse situation and might prevent people from adaptively trying to change it.

Interestingly, however, this argument does not gain empirical support with regard to a number of other negative life events that can also be regarded as threatening to one's belief in a just world (Dalbert, 2001). For example, as Dalbert (2001) has shown, a high level of belief in a just world is *positively* related to coping with long-term unemployment or having to deal with a severely handicapped child. According to Dalbert, a strong belief in a just world serves as a personal resource

when suffering from extremely unjust events and victimization because it helps the victims to find psychological "meaning" in their experience. Indeed, finding meaning in one's victimization (i.e., being able to incorporate the event in one's general schema of the social world) has been shown to be of major importance in coping with adverse experiences (Bonanno *et al*., 2002; Janoff-Bulman, 1992; Taylor, 1989).

According to Dalbert (2001), one reason why a strong belief in a just world might be positively related to victims' adjustment is that such a belief influences the victims' causal attributions. Victims scoring high on BJW engage in more adaptive causal attributions than do victims scoring low on BJW. Before we further elaborate on possible links among BJW, causal attribution, and dealing with sexual violence, we first discuss how and why causal attributions might be related to victims' adjustments.

Causal Attributions and Dealing with Sexual Violence

Drawing from a survey of 40 rape counselors, Janoff-Bulman (1979) hypothesized that a majority of all rape victims engage in some kind of self-blaming (i.e., regard themselves as a cause of their own rape). She distinguished two ways in which victims can blame themselves for having been raped: behavioral self-blame and characterological self-blame. According to Janoff-Bulman (1979), victims engage in behavioral self-blame if they regard their concrete behavior as a reason for their victimization (e.g., "I should not have been out alone in the dark"). On the other hand, characterological self-blame is defined as regarding one's own personality as a reason for being raped (e.g., "I am the typical kind of person who is victimized"). Janoff-Bulman argued that characterological self-blame is maladaptive because it leads to low self-esteem, to the perception of deserving one's fate, and to the feeling that future victimization is both probable and unavoidable. On the other side, behavioral self-blame is regarded as adaptive because it offers concrete explanations for victimization and thereby enhances the feeling of control and the perception of being able to avoid future victimization.

Stimulated by Janoff-Bulman's distinction between characterological and behavioral self-blame, Meyer and Taylor (1986) developed a questionnaire to measure these two different attributional dimensions. Characterological self-blame was measured by four items (e.g., "I am a victim type") whereas behavioral self-blame was measured by five items (e.g., "I should have been more cautious"). However, their study did not support the presumed adaptiveness of behavioral self-blame, as both characterological and behavioral self-blame were negatively related to the coping success of their respondents. Using the same questionnaire as Meyer and Taylor, the maladaptiveness of both kinds of self-attribution was also shown by Frazier (1990) and Arata and Burkhart (1998).

Although these findings contradict the theorizing by Janoff-Bulman (1979), they are well in line with Lewis'(2000) research on self-conscious emotions. Lewis argues that both internal stable (i.e., characterological) and internal variable (i.e., behavioral) attributions for negative life events lead to a decrease in victim's self-esteem. While internal stable attributions lead to feelings of shame, internal variable attributions lead to feelings of guilt (see Weiner, 1995, for a similar line of reasoning).

However, another reason why behavioral self-blame was negatively related to victims' adjustments in the studies mentioned above might lie in the fact that the five-item scale by Meyer and Taylor includes two items that do not clearly measure internal variable (i.e., behavioral) self-attributions but that can also be regarded as measuring stable internal (i.e., characterological) self-attributions: (1) "I am too trusting," and (2) "I am a poor judge of character."

Therefore, we developed a new measure of behavioral self-attributions. In developing this new scale we tried to avoid any reference to stable personality characteristics (like being a good judge of character). Instead we focused on the degree to which a victim regards her concrete behavior in a specific situation as a reason for her victimization (e.g., "I could have avoided it if I had behaved differently").

Both characterological and behavioral self-attribution have in common that they focus on the victim as a cause of victimization. However, victims might also engage in *external* attributions. In line with this reasoning, Meyer and Taylor (1986) added an additional third dimension to their measure of victims' attributions which they called "societal factors" (e.g., "There is too much violence on the television"). However, in their study as well as in a study by Arata and Burkhart (1998), this dimension was not related to any indicators of adjustment and coping-success (e.g., depression, fear, or sexual dissatisfaction). When interpreting these results, one should realize that Meyer and Taylor's societal dimension is mainly related to general reasons why women are sexually aggressed by men. However, when victims search for a causal explanation for why they have been sexually assaulted, they might be more concerned with the reasons for why they personally have been victimized than why women are raped in general. We therefore developed a new measure that focused on the degree to which victims attribute their victimization to purely situational circumstances like bad luck (e.g., "I was just at the wrong place at the wrong time").

What effects are to be expected if external attributions are measured on such a concrete level? There is evidence from a number of studies of stressful events other than rape that external attributions are negatively related to coping success. For example, Winkel *et al.* (1994) investigated the degree to which such external attributions are linked to the coping success of victims of burglary. Using a number of indicators they showed that external attributions were strongly negatively related to coping success (as measured by somatic consequences or fear of future victimization). Winkel *et al.* explained these findings by stressing that external

attributions are negatively related to feelings of control and the avoidability of future victimization. If a person thinks it was pure chance that she was victimized by a certain event, nothing can be done to prevent a similar event in the future. The findings of Winkel *et al.* are very much in line with a review of related research by Tennen and Affleck (1990), who conclude that blaming others for suffering from negative events is robustly related to poor adjustment and poor coping success.

However, it is not self-evident that a similar relationship between external attributions and adjustments of victims is to be found for sexual violence. As Katz and Burt (1988) have emphasized, one major problem of rape victims is that they tend to perceive themselves as responsible for their victimization, a perception that very often leads to feelings of guilt and shame. When asking rape victims who sought help in a rape crisis center about the most helpful comments made by their counselor, 65% of all subjects said the most helpful statement was "you are not to blame" (Katz and Burt, 1988).

Thus, attributing one's experience of sexual violence to situational circumstances could lead to both negative and positive effects. On the one hand, an external attribution style might lower the feeling of control and the perceived ability to avoid future victimization. On the other hand, however, it frees victims from searching for causes of their victimization in their own character or behavior.

The Relationship Between BJW, Causal Attributions, and Adjustment to Sexual Violence

The present study aims to investigate the influence of both causal attributions and BJW on the degree to which victims of sexual violence are able to adjust to their victimization. There are different theoretical possibilities concerning how BJW and causal attributions might be related to each other in terms of their influence on victims' adjustments. First, their effects might simply be additive. In this case, BJW and causal attributions would independently influence the distress of victims.

A second possibility is that the different attributional styles might mediate the influence of BJW on victims' adjustments. If that were the case, BJW would be adaptive *because* it leads victims to choose rather adaptive causal attributions. Based on studies about other negative life events, Dalbert (2001) theorized that BJW is positively related to behavioral self-attributions (which she regards as rather adaptive) and negatively related to characterological self-attributions of victims of sexual violence.

In line with this reasoning, Hafer and Correy (1999) demonstrated that students' emotional reactions to negative course grades were influenced by their causal attributions, which in turn were influenced by the students' extent of belief in a just world.

In a study by Tomaka and Blascovich (1994) subjects with a strong belief in a just world were better able to deal with a stressful task than were subjects

with a weak belief in a just world. Furthermore, in this study, those scoring high on BJW defined the stressful task as challenging rather than threatening and revealed less physiological indicators of stress than did those scoring low on BJW.

Thus, given this empirical evidence it seems plausible that the influence of BJW on adjustment to sexual violence might be mediated by causal attributions made by victims. If that is the case, BJW would not necessarily be a significant predictor of adjustment when the attributional outcomes are analyzed simultaneously.

Third, the adaptiveness of the different attributional styles might be moderated by the belief in a just world. Statistically, this would result in an interaction effect between BJW and the respective attributional dimensions. As we do not have any specific hypotheses about such interaction effects, this analysis is mainly exploratory.

METHOD

Participants in this study were female train passengers travelling in the northern part of the Netherlands. Female interviewers approached women who were approximately 18–30 years old and asked them whether they would be willing to participate in a study that was conducted by the University of Groningen. If participants agreed to take part, they were given a questionnaire and an envelope. They then completed the questionnaire on their own. After participants had finished their questionnaire, they were asked to put their questionnaire into the envelope and to seal it. By using this procedure, we tried to assure respondents that their data would remain anonymous.

One ethical concern when asking respondents to answer questions about past experiences of sexual violence is the risk that respondents might feel strained when having to indicate any details about their past victimization. We were not able to avoid this risk altogether, but we tried to mitigate this risk by informing respondents about a number of different organizations that provide help and support for victims of sexual violence.

A total of 331 surveys were obtained (see also Fetchenhauer, 2002). Respondents were 21.7 years old on average ($SD = 3.0$, ranging from 17 to 30 years). Overall, 94.3% of all participants had a high school diploma, and 15.1% either had a university degree or were currently attending a university.

Victimization was measured using the sexual experiences survey (SES) of Koss and Oros (1982; Koss *et al*., 1987). In the SES, respondents are asked whether they have experienced different forms of male sexual violence in the past, e.g., "Have you ever had sexual intercourse with a man when you didn't want to because he used some degree of physical force (twisting your arm, holding you down, etc.)?" In the present article we only report results with regard to those

respondents who indicated that they had been the victims of male sexual violence in the past. Following this criterion, the data of $N = 62$ respondents (i.e., 18.7% of the total sample) were included in the present analyses. From these 62 victims of sexual violence, 13 indicated that they had been raped (did have sexual intercourse against their will), whereas 49 indicated they had been otherwise sexually assaulted.

If respondents indicated that they had been sexually aggressed in the past, they were asked to answer a number of questions with respect to this experience. Respondents were told that in case they had been victimized more than once they should refer their answers to the victimization that they experienced to be the most stressful.

Two indicators were used to measure the distress victims experienced from their victimization. First, they were asked how often they still thought about the event ($M = 4.2$, $SD = 1.8$ on a seven-point scale ranging from "not at all" to "very often"). Second, participants were asked to indicate how much the event still adversely affected them ($M = 3.8$, $SD = 1.9$ on a seven-point scale ranging from "not at all" to "very much"). As these two variables were highly correlated with each other ($r = .69$, $p < .01$) they were integrated into a scale called adjustment (Cronbach's $\alpha = .82$). This scale was coded in such a way that high values indicated respondents had successfully adjusted to their victimization (i.e., respondents rarely thought about the event and did not perceive it as a burden anymore).

Next, respondents were asked how long ago their victimization took place (with values ranging between 0.0 and 17.0 years; $M = 4.7$; $SD = 3.6$). Given the age of the participants, this variable was also used to calculate the age of the respondents when they were victimized. On average, at the time of victimization, respondents were 16.9 years old ($SD = 4.3$) with values ranging from 4 to 27 years. From the 62 respondents, 10 indicated that they had been victimized when they were younger than 14 years old. In the results section, we will present analyses that are based on all 62 victims in our sample. It should be noted that these results did not change to any significant degree when the analysis was restricted to those participants who had been at least 14 years old at the time of victimization.

To measure participants' belief in a just world we used the 7-item personal belief in a just world scale (Dalbert, 1999; Lipkus *et al*., 1996). A reliability analysis revealed a Cronbach's α of .78 (see the appendix for the averages, standard deviations, and the exact wording of these items).

Furthermore, participants were asked nine questions concerning the reasons why they had become the victims of sexual violence measuring different causal (characterological, behavioral, and external) attributions for their victimization. The exact wording of these attribution measures can be derived from Table I (and the factorial structure of victims' causal attributions is discussed in the results section).

Table I. Factor Loadings of Items Used to Measure Different Causal Attributions for Experienced Sexual Violence

			Factor		
Item	*M*	*SD*	1	2	3
I wasn't careful enough in this situation.	2.6	2.0	.81		
I could have avoided it if I had behaved differently.	3.2	2.3	.79		
It would not have happened if I had taken simple precautionary measures	2.8	2.0	.79		
That's something typical for me.	2.2	1.6		.83	
I am someone who attracts negative events.	2.5	1.9		.79	
It's determined by my personality that I have to suffer from things like that.	2.2	2.1		.79	
I was just at the wrong place at the wrong time.	4.4	2.3			.77
I was just unlucky.	3.5	2.2			.75
It was a culmination of unlucky circumstances.	4.5	2.1			.67

Note. Factor loadings <.50 are omitted.

RESULTS

Internal Structure of Victims' Causal Attributions

First, a principal components analysis (with varimax rotation) was conducted to test the dimensionality of the 9 items that were used to measure respondents' causal attributions for their victimizations. This analysis revealed three factors with an Eigenvalue > 1 (Eigenvalues being 2.1, 2.0 and 1.7, respectively) explaining 64.7% of the items' total variance. As can be seen in Table I, these three factors strongly corresponded to the theoretically derived distinction among different attributional dimensions discussed above. Thus, three different subscales were built called behavioral self-attributions (Cronbach's α = .73), characterological self-attributions (Cronbach's α = .75), and external attributions (Cronbach's α = .58), respectively. Thus, whereas the values for Cronbach's α were sufficient with regard to both characterological self-attributions and behavioral self-attributions, Cronbach's α for external attributions was somewhat lower. We decided to combine the three indicators of this dimension into one single scale because the average inter-item correlation was reasonably high (r = .32).

Further analyses showed that the three different subscales were independent from each other (see Table II). However, a significant correlation emerged between behavioral and characterological self-attributions (r = .29, p < .05). Does that mean that these two different dimensions should be integrated into one single scale? We decided against such an option because both constructs shared less than 10% common variance and the PCA discussed above revealed that the items of both subscales consistently loaded on two different factors.

Most respondents attributed their victimization to the circumstances (e.g., "I was just at the wrong place at the wrong time") rather than to their own

Table II. Intercorrelations Among Study Variables ($N = 62$)

	1	2	3	4	5	6	7	8
1. Type of victimization[a]	—	−.06*	.21	−.14	−.04	−.03	−.09	−.28*
2. Age at time of victimization		—	−.73**	.07	.04	−.12	−.05	.16
3. Time since victimization			—	−.02	−.02	.09	−.04	−.10
4. Personal belief in a just world				—	.05	−.33**	.18	.27*
5. Behavioral self-attributions					—	.29*	.04	.13
6. Characterological self-attributions						—	.15	−.24*
7. External attributions							—	.38**
8. Adjustment								—

[a] 1 = assault; 2 = rape.
* $p < .05$; ** $p < .01$.

behavior or personality. The adherence to situational attributions ($M = 4.1$; $SD = 1.6$) was significantly higher than adherence to behavioral self-attributions ($M = 2.9$; $SD = 1.7$; $t = 7.4$, $p < .01$) or characterological self-attributions ($M = 2.2$; $SD = 1.4$; $t = 4.3$, $p < .01$). The difference between behavioral self-attributions and characterological self-attributions was statistically significant as well ($t = 2.7$, $p < .05$).

Predictors of Adjustment

As can be seen in Table II, respondents' adjustment to victimization was lower if they had been raped than if they had been sexually assaulted in another way: $r = −.28$, $p < .05$. Neither the participants' age at the time they were victimized nor the amount of time since victimization was related to victims' adjustment (ps $> .10$).

Next, we assessed whether personal belief in a just world was related to victims' self-reported adjustment. In line with the general hypothesis, victims' distress levels were indeed significantly correlated with BJW scores. The more respondents were convinced that events in their personal life are just, the more they were able to deal with their past victimization: $r = .27$, $p < .05$.

Two of the three different attributional dimensions were also correlated with the extent to which respondents were able to deal with past experiences of sexual violence. Victims' adjustment was better if they engaged in fewer characterological self-attributions ($r = −.24$, $p < .05$) and if they attributed their victimization more to external causes ($r = .38$, $p < .01$). The relationship between behavioral self-attributions and adjustment was not significant ($r = .13$, $p > .10$).

Next, we conducted a number of regression analyses (see Table III). In the first analysis (Model 1), we regressed victims' adjustment on their type of victimization, time since victimization, and the age at which they were victimized

Table III. Regression Analyses for Variables Predicting Coping Success of Victims of Sexual Violence ($N = 62$, β-coefficients)

Variable	Coping success of victims of sexual violence			
	Model 1	Model 2	Model 3	Model 4
Time since victimization	.01	−.03	.13	.13
Type of victimization[a]	−.27*	−.24*	−.23	−.22
Age at time of victimization[b]	.02	−.05	.19	.17
Personal belief in a just world		.25*	—	.06
Behavioral self-attributions			.21	.20
Characterological self-attributions			−.36**	−.34*
External attributions			.42**	.42*
Adjusted R^2	.03	.08	.26	.25

[a] 1 = assault; 2 = rape.
[b] 1 = <14 years; 2 > 14 years.
*$p < .05$; **$p < .01$.

($F = 3$, 1.648, $p = .19$). The only significant predictor of victims' adjustment in this analysis was the type of victimization ($\beta = -.27$, $p < .05$).

In the next analysis (Model 2), we added BJW to these background variables as a predictor of adjustment ($F = 4$, 2.849, $p < .05$). As in the bivariate analysis, BJW was significantly related to adjustment: $\beta = .25$; $p < .05$. Thus, the relationship between BJW and adjustment remained stable when respondents' type of victimization (i.e., rape vs. other kinds of victimizations) was controlled. The more respondents believed in a just world, the better they were able to deal with their victimization in general.

In Model 3, we added the three attributional dimensions to the model ($F = 6$, 4.511, $p < .01$). Both characterological self-attributions and external attributions exerted reliable effects. The more respondents attributed their victimization to their own personality, the lower their adjustment score ($\beta = -.36$; $p < .01$). Conversely, the more they attributed their victimization to bad luck, the better their adjustment ($\beta = .42$; $p < .01$). Behavioral self-attributions were marginally related to respondents' self-reported adjustment ($\beta = .21$, $p = .07$).

Finally, in Model 4 we added BJW as a control variable to the variables that were used in Model 3 ($F = 7$, 3.842, $p < .01$). As can be seen in the last column of Table III, the β-coefficients of the three attributional dimensions resembled their values in the previous model. Hence, adding BJW did not increase the explanatory value of the regression. However, Models 2 and 4 provided evidence that the influence of BJW on victims' adjustment might be mediated by attributions.

To formally test for mediation, we conducted a series of regression analyses as recommended by Baron and Kenny (1986), Kenny et al. (1998), and extended by Shrout and Bolger (2002). Because of the small sample size we used Bootstrap methods to estimate the effects (see Shrout and Bolger, 2002). That is, regression coefficients and standard errors were obtained as result of $J = 1000$ Bootstrap

samples. The results showed that error distributions were normal, and normal-theory results and bootstrap gave the same results.

First, BJW predicted victims' adjustment significantly (Model 2 in Table III): $\beta = .25$, $p < .05$. Second, we tested whether the relationship between BJW and attributions was significant. When controlling for time since victimization, type of victimization, and age at the time of victimization BJW was significantly related to characterological self-attributions ($\beta = -.42$, $p < .01$). With regard to both behavioral self-attributions and external attributions, no such significant relationship emerged. Third, regressing victims' adjustment on both BJW and attributions provided significant results (Model 4 in Table III) for characterological self-attributions ($\beta = -.34$, $p < .01$) and external attributions ($\beta = .42$, $p < .01$). On the other hand, the effect of BJW on victims' adjustment dropped to a non-significant level ($\beta = .06$, ns). Thus, it can be concluded that a characterological self-attribution mediates the effect of BJW on victims' adjustment. Using the Baron and Kenny modification of the Sobel test, the indirect effect of BJW on victims' adjustment due to mediation is statistically significant (effect size $= .60$, $s = .30$, $p < .05$). As there is no indication of suppression effects (see Shrout and Bolger, 2002), the effect proportion mediated is $P_M = .52$.

In sum, although BJW did not prove to have a significant direct impact on victims' adjustment in Model 4, it plays an important role for victims' adjustment; BJW has a significant indirect effect via characterological self-attributions. That is, BJW significantly reduces characterological self-attributions, which in turn have a significant negative impact on victims' adjustment.

Moderator Analyses

Next, we tested whether respondents' personal belief in a just world might moderate the influence of the three attribution styles on their adjustment. Following the guidelines of Aiken and West (1991), we first mean-centered the values of the three attribution styles and of the BJW scale. Next, we built three interaction terms by multiplying the respective mean-centered three attribution styles with the mean-centered BJW scale. Finally, we entered these interaction terms in a number of regression analyses in which adjustment was regressed on personal belief in a just world, the specific attributional dimension, and the specific interaction term. The results of these regression analyses are summarized in Table IV. Neither the interaction term of BJW and behavioral self-attributions nor the interaction term of BJW and characterological self-attributions attained significance (ps $> .10$).

However, the interaction between BJW and external attributions was significant, $\beta = .29$ ($p < .05$). Simple slopes analyses (Aiken and West, 1991) revealed that external attributions were unrelated to adjustment when BJW was low, $\beta = .06$ ($p = .68$), but they were positively related to victims' adjustment when BJW was

Table IV. Regression Analyses to Test Interaction Effects in Predicting
Coping-success of Victims of Sexual Violence ($N = 62$)

	β-Coefficients
Equation 1	
BJW[a]	.27*
Behavioral self-attributions	.19
BJW × behavioral self-attributions	.04
Explained variance[b]	.04
Equation 2	
BJW[a]	.23
Characterological self-attributions	−.13
BJW × characterological self-attributions	.02
Explained variance[b]	.04
Equation 3	
BJW[a]	.24*
External attributions	.34**
BJW × external attributions	.26*
Explained variance[b]	.21**

[a]BJW: personal belief in a just world.
[b]Adjusted R^2.
*$p < .05$; **$p < .01$.

high, $\beta = .62$ ($p < .01$). Thus, external attributions were neither adaptive nor maladaptive when personal belief in a just world was low. However, if participants' personal belief in a just world was high, external attributions turned out to be eminently adaptive (see Fig. 1).
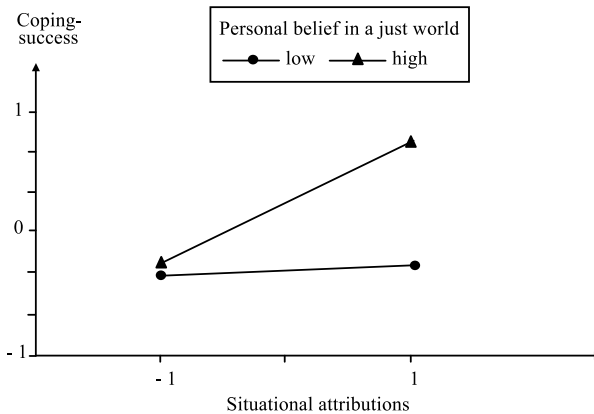
Fig. 1. Predicted values illustrating the moderating effect of personal belief in a just world on external attributions in victims' coping-success (*z*-standardized values). High and low values are one standard deviation above and below the mean, respectively.

DISCUSSION

The central hypothesis guiding the present research was that believing in a just world would be positively related to victims' adjustment when dealing with sexual violence. This general hypothesis was confirmed. The better the respondents scored on BJW, the better their adjustment (i.e., the less they still thought about their past victimization and the less they indicated the victimization was still a burden).

Another important issue of the present research was the relation of victims' adjustment to their causal attributions for their experiences. Thus, we developed a new 9-item scale that distinguished among three different attributional dimensions: Behavioral self-attributions, characterological self-attributions, and external attributions. It turned out that these three dimensions were independent from each other and could clearly be differentiated. This is especially noteworthy with regard to the two subscales of behavioral and characterological self-blame. Frazier and Schauben (1994) have argued that both dimensions are often highly correlated because they are substantially related to each other in victims' perceptions. However, in the present study behavioral and characterological self-blame were only modestly correlated ($r = .29$) and could clearly be distinguished. This might be due to the fact that we tried to measure both dimensions as purely as possible and avoided items that could be regarded as an indicator of both behavioral and characterological self-attributions.

Our measurement of external attributions differed from methods used in earlier studies. The previous scale by Meyer and Taylor (1986) mainly concentrated on societal reasons for why women are raped in general (e.g., "there is too much pornography"). In contrast, our measure of external attributions focused on the degree to which a respondent thought the very reason for her personal victimization had been situational circumstances (e.g., "I was just unlucky"). In other words, whereas the scale by Meyer and Taylor mainly measured external and *stable* attributions, our scale mainly measured external and *variable* attributions. In future research, it would be worthwhile to explicitly distinguish between these two different subdimensions.

In accordance with previous research (Arata and Burkhart, 1998; Frazier, 1990; Meyer and Taylor, 1986), characterological self-attributions were negatively related to adjustment. The more respondents thought that they personally "attract negative events," the more they continued to think about a past victimization and the more they perceived the experience to still affect them. Furthermore, characterological self-attributions turned out to be negatively related to BJW. Although the cross-sectional design of the present study does not draw strong causal conclusions, it seems that a high level of BJW prevents victims from engaging in such maladaptive causal explanations for their victimization.

Behavioral self-attributions turned out to be unrelated to the adjustment of our respondents. Thus, in our study as in others before, only limited empirical evidence could be found for the adaptive function of behavioral self-attributions as hypothesized by Janoff-Bulman (1979). However, when controlling for all other predictors of adjustment, the effect was positive and of moderate size ($\beta = .20$), so its non-significance could be due to the limited sample size. Therefore, it would be interesting to replicate our study with a larger sample. In any case, behavioral self-attributions were not significantly maladaptive as they were in studies by Meyer and Taylor, (1986), Frazier (1990), and Arata and Burkhart (1998). This might be due to the fact that our measure strictly avoids any items that might be mixed up with stable internal (i.e., characterological) self-attributions. However, this explanation does not hold for the longitudinal study that was recently conducted by Frazier (2003). In that study, Frazier developed a new scale to measure "behavioral self-blame" independent of any internal stable attributions. Contrary to our study, that scale was consistently negatively related to victims' adjustment. We will come back to this issue below.

Remarkably, and in contrast to many previous studies on dealing with negative life events (Tennen and Affleck, 1990) and criminal victimization (Winkel *et al.*, 1994), external attributions turned out to be rather adaptive when dealing with sexual violence. In the introduction, we mentioned one important difference between rape victimization and other negative events. When having to deal with rape, women often experience feelings of guilt, shame, and responsibility for their victimization (Katz and Burt, 1988). Therefore, it seems plausible that external attributions would be adaptive when dealing with experiences of sexual violence. If one "was just at the wrong place at the wrong time," there is no need to feel responsible for having been raped.

Interestingly however, external attributions were especially adaptive when respondents had a high level of personal belief in a just world. To understand this finding, one might recapitulate the ambivalent consequences of making external attributions. On the one hand, attributing one's victimization to external circumstances sets a victim free from feeling responsible for her victimization. On the other hand, the assumption that one was victimized simply by pure chance or bad luck implies the notion that the world is chaotic and unforeseeable and that one might be victimized again in the future without being able to prevent such re-victimizations (Winkel et al, 1994). It is plausible that the benefits of making external attributions would be more pronounced for people with a strong BJW. Strongly believing in a just world might help women find "meaning" in their victimization instead of focusing on the threatening idea that coincidental events cannot be prevented. As Dalbert (2001) has argued, a strong belief in a just world serves as a personal resource because it helps the victims to incorporate their experience into their schema of the world and to overcome the perception of their victimization as a terrifying, incomprehensible incident.

Although we regard this interpretation of the interaction effect between BJW and external attributions as quite plausible, it has to be noted that this interpretation is rather post hoc, as we did not predict this specific interaction effect beforehand. Therefore, future research must show how stable this effect is.

Another issue that has been neglected in previous investigations, as well as in the present study, is the relationship between causal attributions and the very circumstances under which victims were sexually victimized by men (e.g., Where did the offense take place; who was the perpetrator?). In future studies it would be reasonable to examine these questions in much more detail. In doing this, it might also be possible to estimate how realistic victims' attributions are and to relate the degree of the attributions' appropriateness to the adjustment of the victims. Such an analysis might also explain why, in the present study, behavioral self-attributions were positively (although only marginally significant) related to adjustment whereas in the study by Frazier (2003) a similar measure was negatively related to adjustments. As outlined above, in the sample of Frazier, many respondents were raped by a complete stranger, in which case behavioral self-attributions might have been rather inappropriate (as opposed to being raped by an acquaintance who was invited to one's apartment).

Additionally, in future studies, it would be interesting to study the role of rape myths acceptance (Burt, 1980) in dealing with sexual violence. Bohner (1998) reports a study in which rape myth acceptance of female respondents was positively related to their general belief in a just world. However, this relationship was only apparent if respondents themselves had *not* been victimized in the past. The question of whether the degree of rape myths acceptance influences victims' causal attributions and their ability to deal with their victimization has not yet been investigated.

Remarkably, in the present study adjustment was not influenced by the time that had passed since the victimization took place. This result is in line with earlier studies on rape victims (Arata and Burkhart, 1998), as well as a large representative study of crime victims by Schwind *et al.* (2001), and studies on coping with the loss of one's spouse or one's child (Lehman *et al.*, 1987). Thus, if victims lack the personal resources to cope with a stressful and serious event like sexual violence, the wounds that are caused by this event will rarely heal by themselves and victims might continue to ruminate for a very long time (Lehman *et al.*, 1987).

To what degree are these empirical results due to the research design that we applied in the present research? In the following, we will discuss some differences with previous research on sexual violence and how these differences might have affected our results.

First, our sampling procedure differed from previous studies. By approaching train passengers to participate in our study we were able to cover a much

more representative sample than by using college undergraduates who were used in a number of previous studies (e.g., Koss *et al*., 1987). In other studies, the samples consisted of women seeking help in a rape counseling center after they had been sexually victimized (e.g., Frazier, 2003). Although this procedure definitely has some strong advantages we would like to point out that it also has its drawbacks. Not every woman who is sexually aggressed seeks help in such a center. As Frazier (2003) points out, in such samples more women tend to be victimized by strangers and more women tend to be physically injured than would have been expected based on the data of representative victimization surveys.

Second, contrary to most other studies, we did not use general measures of physical and mental well-being (e.g., depression) to measure victims' adjustment, but we asked rather directly whether victims still suffered from their experience of being sexually victimized. We would argue that this procedure was warranted given the fact that we asked our respondents whether they ever experienced any kind of sexual violence: a woman might still feel strained by a sexual victimization that she experienced some years ago although this victimization might not affect her score on a depression inventory.

Third, we applied a cross-sectional design. This is in line with the majority of other studies, but one might ask whether it would not be much more reasonable to apply a longitudinal design, as cross-sectional designs do not allow us to distinguish simple correlations from causal relations between two variables (examples for longitudinal studies with victims of sexual violence are Himelein, 1995 and Frazier, 2003). Therefore, in future studies it would be valuable to measure women's belief in a just world at a first point of measurement (time 1) before they have been victimized. Then, at a second point of measurement (time 2) one could ask respondents whether they have been victimized since time 1 and could then investigate how they are dealing with this victimization.

Irrespective of these limitations, the research design of the present study enabled us to sample women with a broad variety of demographic backgrounds and made it possible to cover a large variety of sexual victimizations (e.g., with regard to the type of sexual violence and the age of the victim at the time she was victimized). Thus, we would argue that our study was able to validly measure some important predictors of females' adjustment to sexual violence. As the present study suggests, one of these predictors is a strong personal belief in a just world.

APPENDIX: ITEMS FROM THE PERSONAL BELIEF IN A JUST WORLD SCALE (DALBERT, 1999) USED IN THIS STUDY

Items	M	SD
I believe that, by and large, I deserve what happens to me	4.4	1.5
I am usually treated fairly	5.2	1.3
I believe that I usually get what I deserve	4.7	1.4
Overall, events in my life are just	3.6	1.6
In my life, injustice is the exception rather than the rule	4.1	1.7
I believe that most of the things that happen in my life are fair	4.8	1.3
I think that important decisions that are made concerning me are usually just	4.9	1.2

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