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The personal belief in a just world and domain-specific beliefs about justice at school and in the family: A longitudinal study with adolescents

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Abstract

This article investigates the relationship between the personal belief in a just world (BJW) and domain-specific beliefs about justice and examines how justice cognitions impact on adolescents' development, particularly on their achievement at school and their subjective well-being. A longitudinal questionnaire study with German adolescents aged 14-19 years was conducted over a period of five to eight months. The pattern of results revealed that evaluations of the school climate and of the family climate as being just were two distinct phenomena, both of which impacted on the personal BJW, which in turn affected the domain-specific beliefs about justice. However, the domain-specific beliefs about justice did not impact on each other directly. Moreover, an evaluation of the family climate (but not of the school climate) as being just reduced depressive symptoms, whereas depressive symptoms did not weaken the evaluation of one's family as being just. The evaluation of the school climate as being just improved the grades received in the next school report, whereas the grades received did not affect the justice evaluation of the school climate. Finally, all relationships persisted when controlling for age and gender. In sum, the pattern of findings supports the notion that justice cognitions impact on the development during adolescence.

Key words: belief in a just world; justice; family, school grades; depression

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“From a psychological point of view, there is no objective justice. It is the subjective perceptions of justice and injustice that matter” (Mikula, in press, p. 5). Justice judgments can be formed as a result of cognitive reasoning or by intuition and feeling (Lerner & Goldberg, 1999). However, justice judgments are always subjective, and can be affected by factors such as personal experiences, attitudes, and dispositions. One disposition fostering positive justice judgments is the belief in a just world (BJW; e.g., Lerner, 1980; for a review, see Furnham, 2003). Lerner (1980) holds that individuals need to believe in a just world in which everybody gets what they deserve, because this enables them to deal with their physical and social environment as if it was stable and orderly. Because observed or experienced injustice threatens this adaptive function, individuals suffer greatly when experiencing injustice and thus do their best to avoid it. It is well documented that the strength of the BJW varies between individuals (Rubin & Peplau, 1973, 1975); hence, the tendency to arrive at positive justice judgments also differs.

We would like to argue that the belief in a just world and the subjective impression of being treated justly in different spheres of life is an important developmental resource during adolescence. Adolescence is a period of life in which important investments in one’s future and further development have to be made (e.g., Cobb, 1992; Coleman, 1993). Adolescents need to invest in their school career as a precondition for an optimal school-to-work transition and a successful professional life; they have to learn to trust in societal institutions as a precondition for a smooth socialization; they leave their family of origin, which often involves a geographical move; and they invest in romantic relationships as a first step towards starting a family of their own. All these efforts need a variety of requirements, but are also essentially based on the trust in being treated fairly by others and getting a just share of life.

In the present study, the relationship between personal BJW and domain-specific beliefs about justice is examined. We investigate how justice beliefs in different spheres of life impact on the development of the personal BJW in adolescence and vice versa. Specifically, justice beliefs at school and in the family will be investigated. Furthermore, we examine how the personal BJW and domain-specific beliefs about justice may impact on adolescent development. In particular, we examine the impact of the personal BJW and domain-specific beliefs about justice on adolescents' school achievement and subjective well-being.

Personal BJW and adolescent development

Adolescence is a crucial period for the development of the BJW. Until the age of seven or eight, children typically believe in immanent justice and are convinced that wrongdoings are automatically punished (Piaget, 1932/1997). As they grow older, however, they slowly abandon this belief in immanent justice. As a result of their cognitive development, older children and adults have no difficulty in identifying random events. Nevertheless, they sense that a random fate is unjust and, when given the possibility to justify a negative fate, will do so (e.g., Jose, 1990). The BJW that develops during late childhood can thus be interpreted as a more mature version of the belief in immanent justice—as the belief that people in general deserve their fate, accompanied by the cognitive ability to identify causality and randomness. During adolescence, the differentiation of two different just world beliefs can be observed: the belief in a personal just world in which one is usually treated fairly on the one hand, and the belief in a general just world in which people in general get what they deserve on the other (Dalbert & Sallay, 2004).

The BJW provides a conceptual framework which helps individuals to interpret the events of their personal lives in a meaningful way. When individuals high in BJW either observe or experience injustice, they usually try to restore justice or—if they see no way to compensate

for the injustice in reality—try to assimilate this experience to their BJW resulting in positive domain-specific beliefs about justice (for a review, Dalbert, 2001). This can be achieved by justifying the experienced injustice as being at least partly self-inflicted (e.g., Bulman & Wortman, 1977; Comer & Laird, 1975; Lupfer, Doan, & Houston, 1998), by playing down the unfairness (e.g., Lipkus & Siegler, 1993), or by avoiding self-focused rumination (Dalbert, 1997). This assimilation process allays feelings of anger and enhances subjective well-being (e.g., Dalbert, 2002a).

BJW and subjective well-being

Several studies have provided empirical support for the adaptive relationship between the BJW and subjective well-being of adolescents and young adults. Correia and Vala (2004), for example, showed that Portuguese adolescents and young adults with a strong BJW were more satisfied with their life; moreover, this relationship persisted when controlling for belief in internal control. In a sample of Slovakian adolescents, Dzuka and Dalbert (2002) demonstrated a positive relationship between the BJW on the one hand and life satisfaction and positive affect on the other; again, this relationship persisted when controlling for further personality dimensions such as extraversion or neuroticism as well as for objective (gender, unemployment status) and situational factors (subjective financial situation). In the same vein, Dalbert and Dzuka (2004) demonstrated an adaptive relationship between the BJW and well-being in three samples of German and Slovakian teenagers: The more they believed in a just world, the more satisfied the teenagers were with their life and the more positive affect they experienced; again, these relationships persisted when controlled for broader personality dimensions such as neuroticism and extraversion. Finally, in a sample of young male prison inmates, it was shown that the more prison inmates believed in a just world, the less anger they experienced and the better able they were to control their angry reactions, in particular outburst behavior (Otto & Dalbert, in press).

BJW and achievement

Furthermore, the BJW endows individuals with the confidence that they will be treated fairly by others. Individuals high in BJW are less suspicious of others (Furnham, 1995; Zuckerman & Gerbasi, 1977) and expect to be treated justly by others--for example, to be given only fair tasks (Tomaka & Blascovich, 1994). For achievement contexts it has been shown that, when facing achievement demands, individuals high in BJW are confident that their efforts will be rewarded fairly, feel less distressed, and thus obtain better results than individuals low in BJW (Tomaka & Blascovich, 1994). Consequently, it seems reasonable to expect adolescents high in BJW to attain better grades at school than adolescents low in BJW. Indeed, first studies have provided evidence to support the expected positive association between BJW and school grades (Dalbert, 2001; Dalbert & Maes, 2002; Dalbert & Stoeber, 2005). Strong BJW should be an adaptive resource for successful school achievement because adolescents high in BJW are more likely to explain success and failure at school in terms of their own efforts--e.g., doing their homework conscientiously or applying learning strategies--and to feel pride and confidence in their achievements. Adolescents low in BJW, on the other hand, are more likely to explain their school achievements in terms of external forces such as chance or unfair teachers, and to show elevated levels of fear of failure (Dalbert & Maes, 2002).

Stability of BJW

In sum, there is ample evidence that the BJW and subjective well-being of adolescents and young adults are positively associated. Moreover, there is preliminary evidence that adolescents high in BJW perform better at school. However, all of this evidence thus far is cross-sectional only. Further research is therefore needed to examine whether these relationships may also be causal in nature. Research has confirmed that the BJW is a personality disposition that is reasonably stable over time (Dalbert, 2000). Moreover, experimental and questionnaire studies have not identified any differences in the BJW of those who have experienced critical life events and those who have not (e.g., Janoff-Bulman,

1989; Overcash, Calhoun, Cann, & Tedeschi, 1996); between those with differing event-specific justice judgments, for example, immigrants versus non-immigrants with differing justice judgments concerning the fate of immigrants (e.g., Dalbert & Yamauchi, 1994); between those contemplating their own just or unjust behavior (Dalbert, 1999); or between those typically complaining about being treated unfairly and their counterparts, for example, prisoners and their guards (Dalbert, Lipkus, Sallay, & Goch, 2001). Thus, we assume that the BJW not simply correlates with subjective well-being and achievement, but that a strong BJW has a causal effect on adolescents' subjective well-being and achievement (school grades).

General and personal BJW

Recent studies have shown that it is necessary to distinguish between the belief in a personal just world and the belief in a general just world (Dalbert, 1999; Lipkus, Dalbert, & Siegler, 1996). The personal BJW reflects the belief that events in one's life are just whereas the general BJW reflects the belief that, basically, the world is a just place. It has been shown that individuals tend to endorse the personal BJW more strongly than the general BJW and that the personal BJW is a better predictor of well-being than the general BJW (Dalbert, 1999; Lipkus, Dalbert, & Siegler, 1996). Moreover, it has been shown that adolescents validly differentiate between the two beliefs (e.g., Dalbert & Radant, 2004). When the relationships of well-being with the personal and the general BJW were compared in the above mentioned studies with adolescents (Dalbert & Dzuka, 2004; Dzuka & Dalbert, 2002), results consistently showed that the personal BJW was related to well-being, but not the general BJW. Additionally, it was the personal BJW and not the general BJW that correlated with school grades (Dalbert, 2001). Thus, it seems that it is the belief in a personal just world, in particular, that enhances subjective well-being and achievement at school. Consequently, in the present study, we focused on the personal BJW.

Personal BJW and domain-specific beliefs about justice

The impact of BJW on well-being may be mediated by individuals' domain-specific beliefs about justice. For example, Hafer and Correy (1999) demonstrated that adolescents high in BJW were more likely to make internal attributions and less likely to make external attributions of negative outcomes such as getting bad grades which attenuated their feelings of unfairness and, in turn, lead to a reduction in negative emotions. In short, the BJW enhances positive domain-specific beliefs about justice, and this leads to improved well-being. Dalbert and Maes (2002) revealed that distress at school was adaptively associated with personal BJW and with the evaluation of one's grades and teachers at school as being just. Hence, the impact of the personal BJW on adolescents' well-being may be mediated by school-specific justice beliefs. However, the school context is not the only important developmental context during adolescence. Justice experiences in other spheres of life, such as the family, may also have a significant impact on adolescents' well-being. To the best of our knowledge, no previous studies have compared the impact of justice experiences in different spheres of life on well-being. We expect the personal BJW's impact on adolescents' well-being to be at least partly mediated by justice experiences at school and in the family. Additionally, the personal BJW's impact on school achievement may also be mediated by school-specific justice beliefs.

Although the positive association between the personal BJW and domain-specific beliefs about justice is well documented in the general literature, the developmental relationship between the two phenomena has not yet been disentangled. Particularly, it is not yet clear whether cumulative justice experiences foster a strong personal BJW or whether a strong personal BJW fosters the experience of justice. Studies focusing on parenting and the formation of the BJW have demonstrated a positive relationship between the personal BJW and a just family climate and thus suggest that justice experiences in the family promote the development of a stable trust in justice as depicted in the personal BJW (Dalbert & Radant,

2004; Sallay & Dalbert, 2004). Because these studies are cross-sectional, however, they do not allow causal interpretations. Moreover, these studies have not compared the impact of justice experiences on the development of the personal BJW in different developmental contexts. Thus, it is still unclear whether beliefs about justice in different contexts, such as the school and the family, have an equally strong impact on the development of the personal BJW.

As a first investigation of this question, we conducted a longitudinal study with adolescents aged 14 to 19 years to test the following hypotheses: (a) The more adolescents evaluate their school and their family life as being just, the more their personal BJW should increase over time. (b) The more adolescents believe in a personal just world, the more they should evaluate their teachers and their family life as being just. (c) The more adolescents believe in a personal just world and the more they evaluate their teachers and their family life as being just, the more their well-being should increase over time. (d) The more adolescents believe in a personal just world and the more they evaluate their teachers as being just, the more their school achievement should increase over time.

METHOD

Procedure

The first questionnaire was distributed in the winter term during lesson time (T1). The second questionnaire was mailed to participants about four months later. If the completed questionnaire was not sent back in time, a reminder was sent out about four weeks later. Thus, participants answered the second questionnaire about five to eight months after the first one (T2). Participants were guaranteed anonymity. The participants provided a code which allowed identifying the questionnaires of the same person.

Participants

At T1, $N = 350$ adolescents attending grade levels 9 to 12 of three academic-track secondary

schools (German "Gymnasium") participated in the study. Of these, $n = 215$ adolescents (61.2%) also participated at T2 (129 females; 86 males). Age ranged from 14 to 19 years ($M = 15.9$; $SD = 1.1$). At least two classes were recruited from each school and from each grade level. The chosen observation period allowed to compare school grades received on the summer report (T1) with school grades on the mid-term report in early spring (T2).

Measures

Personal BJW was measured using the Personal Belief in a Just World Scale (Dalbert, 1999).

The scale comprises seven items designed to capture the conviction that, overall, events in one's life are just (sample item: "I am usually treated fairly"; Cronbach's $\alpha_{T1} = .88$; $\alpha_{T2} = .91$; $r_{T1,T2} = .58$) with a six-point response scale ranging from 1 ("totally disagree") to 6 ("totally agree"). Using the same six point answer scale, justice beliefs at school were measured with the Just School Climate Scale (Dalbert & Stöber, 2002), which comprises ten items (e.g., "My teachers generally treat me fairly"; $\alpha_{T1} = .87$; $\alpha_{T2} = .88$; $r_{T1,T2} = .65$).

Justice beliefs in the family were measured with the Just Family Climate Scale (Dalbert, 2002b) that comprises eight items (e.g., "My parents generally treat me fairly"). Participants answered each item for their mother and father separately, on the same six-point answer scale as above (for mother: $\alpha_{T1} = .92$; $\alpha_{T2} = .93$; for father: $\alpha_{T1} = .91$; $\alpha_{T2} = .94$).

Because we did not have differential expectations regarding the influence of the mother versus the father, the mother and the father scale scores were aggregated to form one score describing the perceived justice of the family climate ($r_{T1,T2} = .67$). With respect to

achievement, three core subjects are mandatory for all adolescents in German secondary schools: German, mathematics, and one foreign language (usually English). Therefore, as a measure of school achievement, adolescents were asked to indicate the grades they had received in these subjects in their last summer report (T1) and in their last mid-term report (T2), respectively. In Germany, school grades range from 1 ("very good") to 6 ("unsatisfactory"), comparable to grades A to F in US schools. To form a general indicator of

school achievement, grades were first reversed (so that a higher value now indicated higher achievement) and then averaged across the three subjects ($\alpha_{T1} = .69$; $\alpha_{T2} = .74$; $r_{T1,T2} = .83$). Subjective well-being was assessed with the short form of the CES-D Scale (Radloff, 1977; German version: Hautzinger & Bailer, 1993) that comprises 15 items tapping depressive symptoms experienced during the last week (e.g., “During the last week, I felt depressed”; $\alpha_{T1} = .83$; $\alpha_{T2} = .88$; $r_{T1,T2} = .52$). The items of the CES-D were rated on a four-point answer scale ranging from 0 (“rarely or never”) to 3 (“most of the time, always”). For all measures, total scores were computed by averaging across items, with higher scores indicating higher endorsement of the respective construct or higher achievement.

RESULTS

Dropout analyses

For the six central variables (i.e., age, personal BJW, just school climate, just family climate, achievement, and depressive symptoms), differences between the adolescents who responded at both T1 and T2, thus forming the longitudinal sample ($n = 215$), and the adolescents who did not respond at T2 ($n = 135$) were examined using t -tests ($p < .05$); corresponding differences in gender were examined using a χ^2 test. Significant differences emerged for gender ($\chi^2 = 17.50$; $p < .001$), age ($t = -2.70$; $p < .01$), and achievement ($t = 2.53$; $p < .05$). The adolescents who participated in the longitudinal sample reported better grades ($M = 4.55$, $SD = 0.73$) and were younger ($M = 15.9$, $SD = 1.1$) than those who did not respond at T2 ($M = 4.35$, $SD = 0.66$ and $M = 16.3$, $SD = 1.2$, respectively). Regarding gender, 85 of 171 males (49.7%), but only 50 of 179 females (27.9%) did not respond at T2. In contrast, no significant differences were found between the samples with respect to depressive symptoms or the three justice variables.

Change over time

Change in the means of the three justice variables, grades, and depressive symptoms were examined using t -tests. Only just family climate did not change over time ($t = 0.69$; ns).

Personal BJW ($t = 4.11$; $p < .001$; $M_{T1} = 4.16$, $SD_{T1} = 0.83$; $M_{T2} = 4.38$, $SD_{T2} = 0.88$) and just school climate ($t = 4.38$; $p < .001$; $M_{T1} = 4.25$, $SD_{T1} = 0.76$; $M_{T2} = 4.44$, $SD_{T2} = 0.72$) significantly increased over time, whereas grades ($t = -3.17$; $p < .05$; $M_{T1} = 4.54$, $SD_{T1} = 0.73$; $M_{T2} = 4.44$, $SD_{T2} = 0.76$) and depressive symptoms ($t = -3.62$; $p < .001$; $M_{T1} = 0.83$, $SD_{T1} = 0.50$; $M_{T2} = 0.70$, $SD_{T2} = 0.52$) significantly decreased over time.

The interplay of domain-specific beliefs about justice and personal BJW. The variables' distributions were inspected and no extreme deviations from normal distributions occurred. As should be expected however, the justice variables were left skewed and the depression variables were right skewed. Therefore, the relationship between these variables may be attenuated.

Both domain-specific beliefs about justice correlated with each other significantly ($p < .05$), but low ($r_{T1} = .16$; $r_{T2} = .26$). Moreover, just school climate ($r_{T1} = .37$; $r_{T2} = .37$) and just family climate ($r_{T1} = .36$; $r_{T2} = .51$) significantly correlated with personal BJW. In order to clarify the relationship between personal BJW, just school climate, and just family climate, three hierarchical multiple regression analyses were run. Each of the multiple regression analyses was aimed at identifying the causal predictors of change. Thus, the autoregressor was always included in the first step, and only variables measured at T1 were accepted as predictors of change. In the first regression, personal BJW at T2 was regressed on personal BJW at T1 (the autoregressor) entered in block 1, before both climate variables at T1, age, and gender (coded 0 = male, 1 = female) were entered stepwise ($p_{in} \leq .05$) in block 2. Thus, the predictors of the second block competed for entry, and the regression was hierarchical over blocks, but stepwise within the second block (see Tabachnick & Fidell, 2001, p. 135). In the second regression, just school climate at T2 was regressed on just school climate at T1 entered in block 1 and personal BJW at T1, just family climate at T1, age, and gender entered stepwise in block 2. In the third regression, just family climate at T2 was regressed on just

family climate at T1 entered in block 1 and personal BJW at T1, just school climate at T1, age, and gender entered stepwise in block 2. Thus, all analyses controlled for age and gender. Figure 1 shows the standardized regression coefficients of the three regressions (insert Figure 1 about here).

In the accepted regression equation for personal BJW at T2, three predictors explained 6.3% of the variance in addition to the 33.3% of the variance already explained by the autoregressor (personal BJW at T1). Both just climate variables had a positive effect on residual changes in personal BJW. Being female had a negative effect on residual changes in personal BJW, which was more likely to decrease in girls than in boys. The more the adolescents evaluated their school climate and their family climate as being just, the more likely they were to experience an increase in personal BJW over the five to eight months of the observation period. The effect of a just family climate was slightly stronger ($\beta = .17$) than that of a just school climate ($\beta = .12$).

In the accepted regression equation for just family climate at T2, the personal BJW explained 1.1% of the variance in addition to the 45.5% of the variance already explained by the autoregressor (just family climate at T1). Just school climate at T1 did not have an effect on the evaluation of the family climate as being just ($p > .40$). The more the adolescents believed in a personal just world, the more likely their evaluation of the family climate as just was to increase over the observation period.

In the accepted regression equation for just school climate at T2, the personal BJW explained 1.1% of the variance in addition to the 41.5% of the variance already explained by the autoregressor (just school climate at T1). Just family climate at T1 did not impact on the evaluation of the school climate as just ($p > .90$). The more the adolescents believed in a

personal just world, the more likely their evaluation of the school climate as being just was to increase over the observation period.

Impact of domain-specific beliefs about justice and personal BJW on school achievement

In order to clarify the potential effects of personal BJW, just school climate, and just family climate on school achievement, another hierarchical multiple regression analysis was run. Grades at T2 were regressed on grades at T1 (the autoregressor) entered in block 1 and personal BJW at T1, both just climate variables at T1, age, and gender entered stepwise ($p_{in} < .05$) in block 2. In the accepted regression equation for grades, just school climate explained 0.8% of the variance in addition to the 67.7% of the variance already explained by the autoregressor. The more the adolescents evaluated their school climate as being just when surveyed in winter (T1), the more likely they were to receive better grades on their mid-term report in early spring (T2) compared to their previous summer's report (T1). Standardized regression coefficients of this regression are depicted in Figure 2. In contrast to just school climate at T1, just family climate at T1 and personal BJW at T1 did not impact on school achievement (both $p_s > .10$). As a complimentary analysis, just school climate at T2 was regressed on just school climate at T1 (the autoregressor) entered in block 1 and grades entered stepwise ($p_{in} \leq .05$) in block 2. However, grades at T1 did not have an effect on just school climate at T2 ($p > .10$) (insert Figure 2 about here).

Impact of domain-specific beliefs about justice and the personal BJW on subjective well-being

To examine the impact of personal BJW, just school climate, and just family climate on subjective well-being, depressive symptoms at T2 were regressed on depressive symptoms at T1 (the autoregressor) entered in block 1 and personal BJW at T1, both just climate variables at T1, age, and gender entered stepwise ($p_{in} \leq .05$) in block 2. In the accepted regression equation for depressive symptoms, just family climate explained 3.8% of the variance in addition to the 28.9% of the variance already explained by the autoregressor. Standardized

regression coefficients of this regression are depicted in Figure 3. The more the adolescents evaluated their family climate as being just, the more likely their depressive symptoms were to decrease during the observation period. In contrast to just family climate at T1, just school climate at T1 and personal BJW at T1 did not impact on subjective well-being (both $p_s > .30$). Finally, when the just family climate at T2 was regressed on just family climate at T1 (the autoregressor) entered in block 1 and depressive symptoms entered stepwise ($p_{in} \leq .05$) in block 2, results showed that depressive symptoms at T1 did not influence the evaluation of the family climate as being just at T2 ($p > .60$) (insert Figure 3 about here).

DISCUSSION

One aim of the present longitudinal study was to investigate the relationship between adolescents' personal BJW and their domain-specific beliefs about justice in different spheres of life, namely, school and the family. Results revealed that the personal BJW had an about equal effect on both domain-specific beliefs about justice. The more the adolescents believed in a personal just world, the more they evaluated their school and family as being a just context. In other words, a strong personal BJW strengthened their evaluation of their teachers' and parents' behavior as being just. Additionally, both domain-specific beliefs about justice had effects on the personal BJW. The more the adolescents felt that they were treated justly by their teachers and their parents, the more their personal BJW was strengthened.

Beliefs about justice in the two spheres of life, at school and in the family, did not affect one another, however. Rather, the bivariate relationship was caused by their common correlation with the personal BJW, which is the belief of generally being treated fairly in one's life. Thus, the pattern of results indicates that domain-specific beliefs about justice are relatively independent of each other in adolescence, but are both integrated into the personal BJW, which in turn affects these specific domain-specific beliefs about justice. This shows that adolescents' justice experiences at school and in the family both shape the development of

personal BJW. Moreover, adolescents seem to distinguish clearly between the different spheres. Their domain-specific beliefs about justice did not influence the evaluation of justice in the other sphere of life. In sum, the domain-specific beliefs about justice of adolescents can be seen as partly affected by adolescent personality, as indicated by the effects of the personal BJW. At the same time, they are clearly context-specific. The present study investigated family and school, spheres in which adolescents encounter social behavior and important distribution decisions. Future studies should also investigate other spheres, such as the peer group and working life (Cubela Adoric, 2004; Sallay, 2004).

Unexpectedly, the stability of the domain-specific beliefs about justice was higher than the stability of the personal BJW. This may be specific to the present sample, however. Future studies should examine whether this relationship is typical for adolescents at school and for justice beliefs about the school and family context, or whether similar patterns of results can also be observed for other populations with justice beliefs about other spheres of life--for example, for adults' justice cognitions about the workplace. Nevertheless, the present pattern of findings underlines the experiential basis of the personal BJW and is in line with findings that show that personal BJW has a significant relationship with enduring and important personal experiences such as imprisonment (Otto & Dalbert, in press) or being regularly treated in an unjust manner at the workplace or during job search (Cubela Adoric, 2004). Given a five-to-eight month observation period, the test-retest correlation of .58 for the personal BJW compares well with test-retest correlations for other personality dispositions during adolescence (e.g., Hoge, Smit, & Christ, 1995). Moreover, the present findings show that the personal BJW also impacts on the formation of domain-specific beliefs about justice. Although the personal BJW appeared to be somewhat less stable than expected, it still seems to be an important basis for the formation of justice judgments.

Numerous studies have previously revealed an adaptive relationship between the personal BJW, domain-specific justice experiences, and subjective well-being. The present study, however, was the first to investigate the personal BJW and specific beliefs about justice simultaneously in a longitudinal study, at the same time as exploring domain-specific beliefs about justice for different spheres of life. It emerged that the adolescents' subjective well-being was affected by their justice experiences at home. The more the adolescents felt treated justly by their parents, the more their depressive symptoms decreased, indicating that their subjective well-being improved. In contrast, neither the evaluation of the school climate as being just nor the personal BJW had an effect on the adolescents' subjective well-being. The present pattern of findings thus casts a new light on the interplay between the personal BJW, justice experiences, and well-being. In line with former studies, the personal BJW was significantly correlated with depressive symptoms. When competing with specific domain-specific beliefs about justice, however, the personal BJW could no longer explain depressive symptoms. Thus, the personal BJW's effect on depressive symptoms seems to be mediated by domain-specific beliefs about justice. Furthermore, the results show that--although both family-related and school-related justice beliefs significantly correlated with depressive symptoms--only the evaluation of the family climate, but not the school climate, as being just explained residual changes in subjective well-being. Finally, the present study found that the evaluation of the family climate as being just was not influenced by adolescents' subjective well-being. Consequently, the evaluation of the family climate as being just does not simply mirror the adolescents' general state of well-being. In contrast, such evaluations were shown to depend on the personal BJW and specific experiences in the family--for example, the amount of conflict in the family (Dalbert & Radant, 2004; Sallay & Dalbert, 2004). Taken collectively, we can summarize that the evaluation of the family climate as being just is an important factor for the maintenance of adolescents' subjective well-being. Future studies

should explore how the impact those justice experiences in different spheres of life have on subjective well-being changes during the life course.

The laboratory study by Tomaka and Blascovich (1994) inspired investigations of BJW in achievement contexts. First studies identified adaptive associations between the grades received, the evaluation of the school climate as being just, and the personal BJW. Because of the cross-sectional nature of these studies, it was unclear whether a strong personal BJW and positive justice beliefs at school provide adolescents with a stable basis for successful achievements or whether, conversely, good grades increase the belief in a personal just world and in just treatment at school. Our first results support the notion that positive justice cognitions do, in fact, have a positive impact on achievement. The more the adolescents evaluated their school as being just at the first occasion of measurement in winter, the more their grades improved from the previous summer's report to the next mid-term report in early spring. No reverse relationship was observed. Grades did not impact on the evaluation of the school climate as just. Thus, good grades do not seem to make students evaluate their school climate as being just, and bad grades do not seem to make students evaluate their school climate as being unjust. This suggests that adolescents' justice beliefs at school do not center on grades, but take also punishment and interpersonal treatment into account (Fan & Chan, 1999; Israelashvill, 1997). Future studies should examine the experiences most relevant to the formation of the justice impressions at school in more detail.

Some limitations of our study should be mentioned. The study was conducted with a sample of adolescents attending academic-track secondary schools. In the German three-track secondary school system, adolescents enrolled in this track usually show higher intellectual aptitude and a better educational and socio-economic background than adolescents attending low- or medium-track schools (Deutsches PISA-Konsortium, 2001). Therefore, it remains to

be seen whether the observed pattern of results could be generalized to other populations of German adolescents enrolled in low- or medium-track schools. However, in a cross-sectional study with more than 1,700 students from all three school-tracks, we tested the associations between personal BJW, school grades and well-being for differences between samples of adolescents enrolled in low-, medium- or high-track schools and did not detect any differences (Dalbert & Stoeber, 2005). This cross-sectional observation gives some support to the hypotheses that the longitudinal results could also be replicated within samples from other German school tracks. Moreover, the present study involved some selective dropout effects, as the participants who provided longitudinal data were younger and received better grades than those who did not respond at the second measurement occasion, and most of them were female. Depressive symptoms and the three justice variables were not affected by drop-out, however. Moreover, gender and age were controlled in all multiple regression analyses and--with the exception of gender predicting personal BJW--proved not to predict the three justice variables, grades, or depressive symptoms. Further studies are needed to carefully analyze the impact of aptitude and social standing, in particular, on our proposed models of change. Finally, we did a short-term longitudinal study with an observation period of five to eight months which allowed for meaningful comparisons of school grades received on two consecutive school reports and of well-being assessed as state for the last week. Thus, bivariate associations and causal effects over time could be disentangled. This period may have been too short to detect changes due to effects of accumulation of injustice experiences or the impact of increasing cognitive development associated with such experiences, however. Future studies should therefore employ longitudinal designs with longer periods of time.

CONCLUSION

The present study is the first aimed at disentangling the relationship between justice experiences and the development of the personal BJW. Justice evaluations of the school climate and of the family climate are two distinct phenomena, which are dependent on

specific justice-related experiences in these spheres. They do not impact on each other, but both impact on the formation of the belief in a personal just world. In turn, a strong personal BJW fosters positive domain-specific beliefs about justice in each sphere of life. The importance of such cognitions was shown in two ways. First, evaluating the climate of one's school as just promotes success at school; second, growing up in a family climate, which is evaluated to be just, enables adolescents to maintain their well-being. Overall, the present findings indicate that experiences of being treated justly may provide an important developmental resource during adolescence. Future studies investigating successful development during adolescence should therefore take justice concerns into account.

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Figures

Figure 1. The accepted change model for personal belief in a just world (BJW), just school climate, and just family climate (all paths significant at $p < .05$)

Figure 2. The accepted change model for grades (all paths significant at $p < .05$)

Figure 3. The accepted change model for depressive symptoms (all paths significant at $p < .05$)

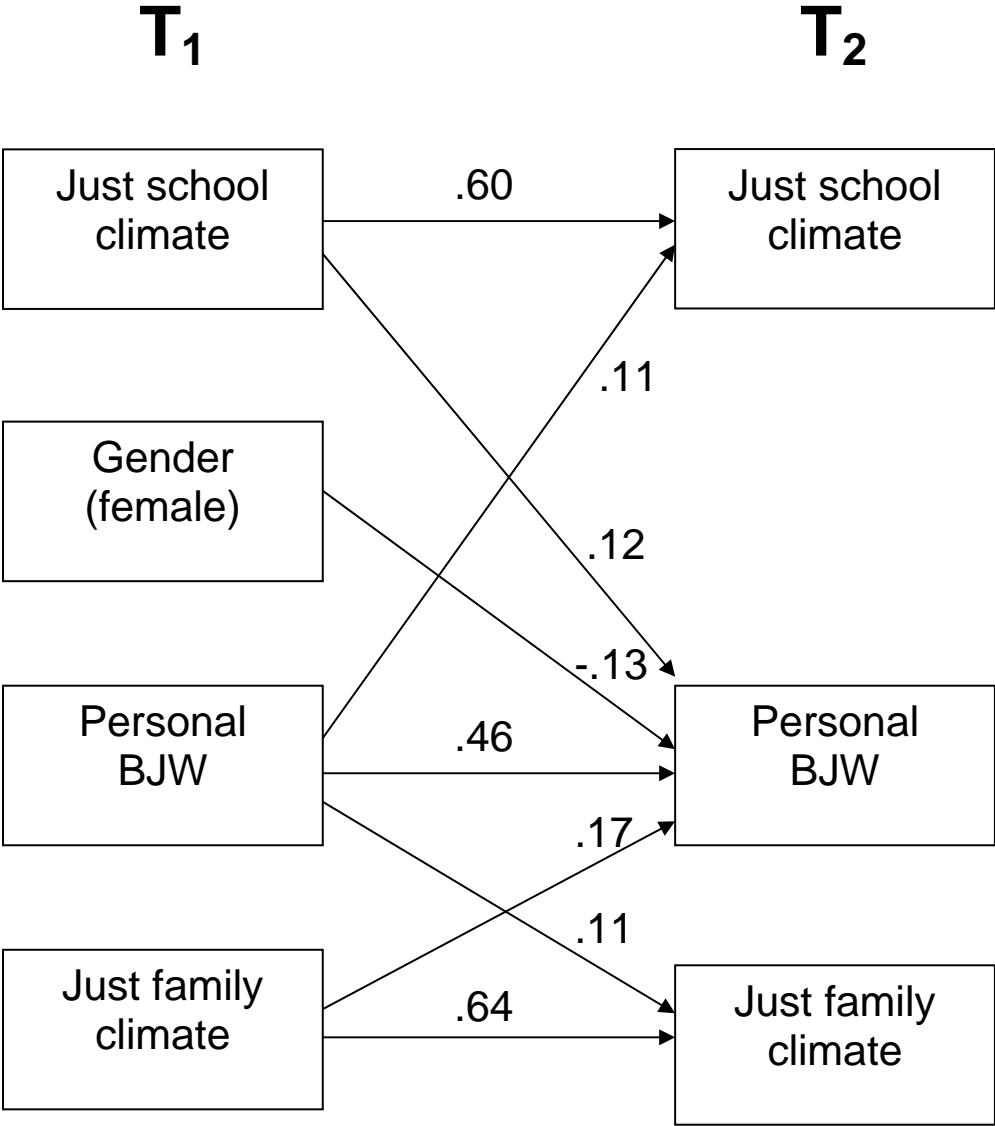


Figure 1

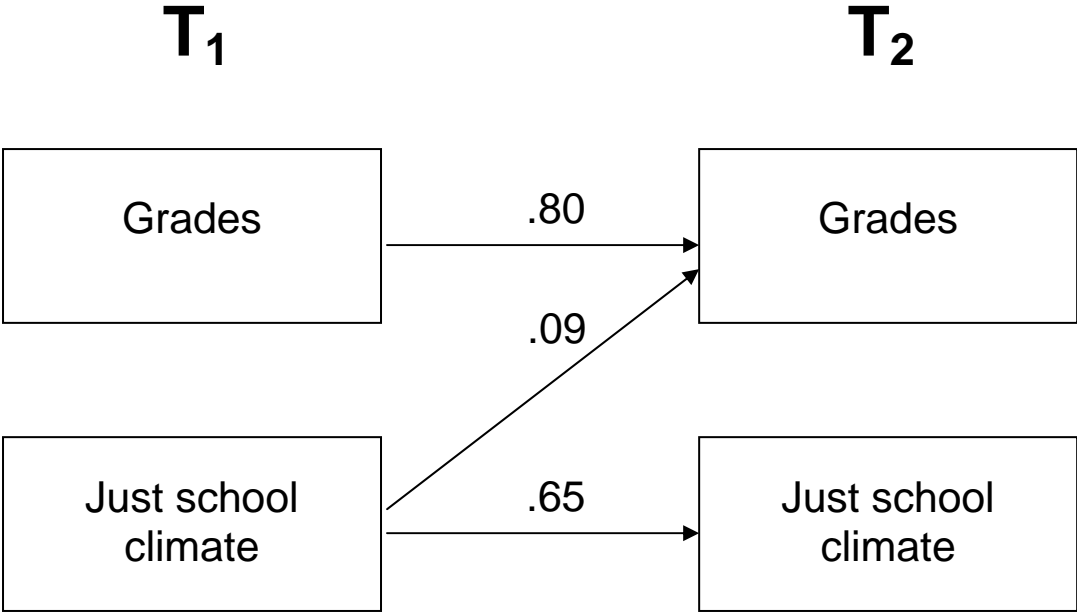


Figure 2

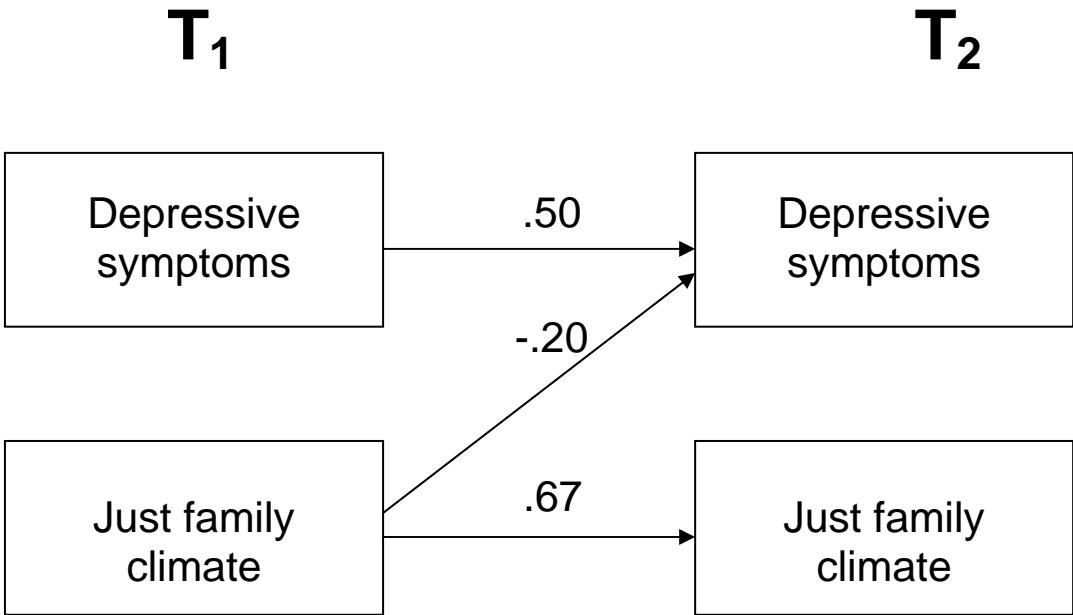


Figure 3