How Do Children Stigmatize People With Mental Illness?

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A way to promote eliminating stigma surrounding mental illnesses is targeting the phenomenon in children. This study’s purpose is to validate models of mental illness stigma on children in Grades 6–8. Children completed the revised Attribution Questionnaire in a pretest of a larger study on a mental health education program. Data from this study permitted testing of roles of demographics in these social cognitive models. Subsequent analyses using manifest model structural equations were mixed, but mostly showed adequate fit for multiple versions of the models. These results suggest that models of blame and dangerousness are relevant to the way 10 to 13-year-olds stigmatize mental illness. Demographics were not found to fit these models satisfactorily. Implications of these findings for stigma-change agenda are discussed.

During the past two decades, research has begun to describe the problems wrought by mental illness stigma and to address ways to diminish it (Corrigan, 2005). In partnership with advocacy groups, this research has begun to lay out a program to erase the stigma in order to increase the opportunities of people with mental illness. Children often are identified as important targets for stigma change (Wahl, 2002). Perhaps the cognitive processes of elementary school students could be influenced so that prejudice about and discrimination toward people with mental illness never develops or is muted. Ideally, we could
foster future generations of adults in which the stigma of mental illness is neither so prevalent nor egregious. These kinds of programs require a better understanding of how stigma develops and is maintained in children.

Theory and research on mental illness stigma has been significantly advanced through a translational research agenda; that is, enhancing theoretical and methodological approaches to mental health issues by extrapolating related ideas from basic behavioral research. Research on mental illness stigma has borrowed heavily from basic social cognitive research that explains the prejudice and discrimination experienced by minority groups. The translational research agenda thus far has been applied largely to understanding how adults stigmatize people with mental illness and ways to diminish it. The purpose of this paper is to extrapolate and test adult models on children.

There are two models of stigmatizing attitudes that have been studied on adults: (a) Persons with serious mental illness are personally responsible for their symptoms/disabilities; and (b) they are dangerous and should be avoided. Weiner (1995) developed a model of causal attribution that explains, at least partly, the relationship between stigmatizing attitudes and discriminatory behavior. As outlined in Figure 1, Weiner believed that attributing personal responsibility for a negative event (e.g., “That person causes his crazy behavior”) leads to anger (“I’m sick and tired of that kind of irresponsibility!”), diminished helping behavior (“I’m not going to give him a ride”), and increased punishment (“He should be locked away in an asylum”). Conversely, attributing no blame for a harmful event (“She can’t help herself; she’s mentally ill”) leads to pity (“That poor woman is ravaged by mental illness”) and the desire to help (“I’ll rent her a room until she’s back on her feet”). The attribution model has been validated on several samples (Dooley, 1995; Graham, Weiner, & Zucker, 1997; Menec & Perry, 1998; Reisenzein, 1986; Rush, 1998; Steins & Weiner, 1999; Zucker & Weiner, 1993), including those specific to mental illness stigma (Corrigan et al., 2002; Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003).

Responsibility attributions seem to make sense for explaining the relationship between mental illness stigma and discriminatory behavior. However, these kinds of attributions differ markedly from typical attitudes about mental illness that emerge in factor analyses of public stigma; namely, that people with serious mental illness need to be segregated from society because they are dangerous (Brockington, Hall, Levings, & Murphy, 1993; Cohen & Struening, 1962; Link, Monahan, Stueve, & Cullen, 1999; Pescosolido, Monahan, Link, & Stueve, & Kikuzawa, 1999). We have outlined one speculative model elsewhere (Corrigan, 2000) and repeat it at the bottom of Figure 1. According to this model, attributing a person’s behavior as dangerous leads to fear. Most people respond to violent threats of any kind with apprehension and avoidance (Johnson-Dalzine, Dalzine, & Martin-Stanly, 1996).
The purpose of the present study is to determine whether stigma models developed for adults are explanatory for the stigma experiences of children in sixth, seventh, and eighth grade. Researchers have argued that stigma, prejudice, and discrimination are likely to be a different process in children because of their limited cognitive development. For example, research by Aboud (1993, 2003) has shown that concrete operational processing is likely to yield more discrimination in preschool children and kindergarteners than in adults. Interestingly, as children age (e.g., 10 to 13 years old), cognitive differences with adults relevant to stigma seem to diminish (Corrigan, Watson, & Lahey, in press). We test this assumption by examining whether the path models established for adults show similar goodness of fit on middle schoolers.

These data also permitted testing of another set of hypotheses; namely, do demographic variables describe a model with good fit and significant associations with the social cognitive models? This aspect of the models also is

Figure 1. Hypothetical paths accounting for stigmatizing reactions. The right side of Path A represents relationships between attributions of personal responsibility for mental illness, subsequent pity or anger, and the effects of this pity or anger on helping behavior or punishment (segregation). The right side of Path B represents attributions of dangerousness, subsequent fear, and avoidant behavior. The figure also describes path models where demographic variables are added as exogenous variables.

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illustrated in Figure 1. Previous research has examined the effects of two variables—gender and ethnicity—on the responsibility-based model of mental illness stigma. These studies typically viewed gender and ethnicity as exogenous variables in the model. In terms of gender, women were significantly less likely to endorse the stigma of mental illness than were men (Corrigan, Watson, & Miller, in press; Farina, 1998). In terms of ethnicity, people of color, compared to the White majority, were less likely to blame individuals for their mental illness, more likely to sympathize with them, and less likely to avoid them in social settings (Corrigan, Backs, Green, Diwan, & Penn, 2001; Schnittker, Freese, & Powell, 2000). Hence, we expect girls from minority samples to be less likely to endorse the stigma of mental illness.

Research also has examined whether cognitive models of responsibility attributions and perceptions of dangerousness vary with childhood cognitive development. Although there are significant differences in development that would affect the social cognitive models between kindergarten and high school (Corrigan, Watson, & Lahey, in press), we would expect to find no such variance in the relatively narrow years of participants in this study: children in sixth, seventh, and eighth grade.

Method

Participants were 1,566 students from 23 schools in 16 states from around the country who were recruited as part of a pilot study examining the impact of a middle school curriculum entitled “The Science of Mental Illness.” The curriculum was developed to provide children with state-of-the-art knowledge about mental health and to decrease the stigma of mental illness. Teachers were solicited (through newsletters of the National Association of Biology Teachers and the National Science Teachers Association) to learn the curriculum and participate in the field study. We selected 14 teachers for the study who volunteered their students to participate in the pilot. Only data from the pretest are reported here.

There were 1,391 children (725 female, 52.1%; 666 male) who provided sufficient responses to baseline stigma measures to be included in the analyses reported in this paper. The sample size of individual analyses was as low as 1,375 because of missing data for those analyses. The subsample was drawn from three grades: sixth (14.5% of subsample), seventh (55.9%), and eighth (29.6%). In terms of ethnicity, 1.9% of students reported themselves as Asian American, 2.4% African American, 16.2% Hispanic, 1.3% Native American, 0.4% Pacific Islander, and 69.8% European American. The remaining 8.0% identified with two or more ethnic groups. Research participants were divided into White, African American, Hispanic, and other groups for the analysis of ethnicity effects on the social cognitive models.
Students completed the revised Attribution Questionnaire (r-AQ), an instrument that measures the factors outlined on the right side of Figure 1. In an earlier study on the original Attribution Questionnaire (Corrigan et al., 2003), respondents read a brief statement about Harry, a 30-year-old single man with schizophrenia. The vignette is very brief to better represent the respondent’s reaction to the schizophrenia label, rather than other information. Respondents in the earlier study then completed 27 items on 7-point Likert-type agreement scales. Three items were written to represent each of the eight factors in Figure 1 plus coercion, an additional factor not used in this paper. The factor structure and reliability of the original AQ were validated in two confirmatory factor analyses (Corrigan et al., 2002, 2003).

We made two revisions to the AQ for the present study. First, the vignette was changed to represent a child, rather than an adult: “There is a new student in your class who just came from another school. You have heard that this student has a mental illness.” Note that this is the entire vignette and, as in the original AQ, was kept short purposefully to capture the participant’s reaction to the schizophrenia label. Second, the number of items was reduced to eight to generate a short test of stigma. Smaller instruments meet some of the efficiency needs imposed by survey research. Based on results from our prior confirmatory factor analyses (Corrigan et al., 2002, 2003), the single item that loaded most highly into each of the eight factors in Figure 1 was incorporated into the r-AQ. Items are provided verbatim in Table 1. All research participants received r-AQ items in the order indicated in Table 1.

Results

Means and standard deviations of the eight items from the r-AQ are summarized in the first column of Table 1 (note the small means for the responsibility and segregation variables). The restricted range evident in these means may limit potentially significant associations. Path analysis with manifest variables was used to test the theoretical models outlined in the right side of Figure 1 because it is one of the more robust measures of both the size and direction of associations among a set of variables. All analyses were conducted using the SAS System’s CALIS procedure (Hatcher, 1994); they adopted the maximum likelihood method of parameter estimation; and they were performed on the variance–covariance matrix.

Table 1 also includes the correlation matrix for the eight variables from which the variance–covariance matrix derives. Several correlation coefficients were small and insignificant (e.g., between pity and anger, or between pity and fear): Small correlations make sense in these cases. While in the same model, pity and anger are represented as independent paths. Correlations like
Table 1

Means and Intercorrelations of Study Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Responsibility (“It is not the student’s fault if he or she has a mental illness.”)</td>
<td>0.82</td>
<td>1.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Pity (“I feel sorry for the new student.”)</td>
<td>4.91</td>
<td>1.83</td>
<td>-.16**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Anger (“The new student makes me angry.”)</td>
<td>2.24</td>
<td>1.55</td>
<td>.16**</td>
<td>-.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Help (“I would help the new student.”)</td>
<td>5.03</td>
<td>1.84</td>
<td>-.13**</td>
<td>.14**</td>
<td>-.16**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Segregation (“The new student should be locked in a mental hospital.”)</td>
<td>1.78</td>
<td>1.43</td>
<td>.16**</td>
<td>-.11**</td>
<td>.25**</td>
<td>-.29**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Dangerous (“The new student is not dangerous.”)</td>
<td>2.26</td>
<td>1.64</td>
<td>.08**</td>
<td>-.10**</td>
<td>.09*</td>
<td>-.17**</td>
<td>.15**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Fear (“I am scared of the new student.”)</td>
<td>2.32</td>
<td>1.64</td>
<td>.09**</td>
<td>.05</td>
<td>.24**</td>
<td>-.24**</td>
<td>.32**</td>
<td>.09**</td>
<td></td>
</tr>
<tr>
<td>8. Avoidance (“I will try to stay away from the new student.”)</td>
<td>2.84</td>
<td>1.74</td>
<td>.13**</td>
<td>-.06**</td>
<td>.23**</td>
<td>-.41**</td>
<td>.39**</td>
<td>.11**</td>
<td>.33**</td>
</tr>
</tbody>
</table>

*p < .05. **p < .01.
those represented by pity and fear are small because they come from the two independent models: responsibility and danger.

Goodness-of-fit indexes for the various models are presented in Table 2. The chi-square statistic that is included in this table provides a test of the null hypothesis that the reproduced covariance matrix has the specified model structure. Nonsignificant chi squares support good fit. The statistic, however, is very sensitive to sample size, as well as departures from multivariate normality, and often may result in the rejection of a well-fitting model. Table 2 includes three additional fit indexes: comparative fit index (CFI), normed fit index (NFI), and non-normed fit index (NNFI; Bentler, 1989; Bentler & Bonett, 1980). Scores on these indexes vary from 0 to 1 and are considered to support fit when they are greater than .90. Finally, Table 2 includes standardized coefficients representing the size of the association of individual paths within each model. Significant t values (t > 1.96, p < .05) for individual coefficients are marked with an asterisk.

Responsibility

Table 2 summarizes two responsibility path models, predicting help and segregation, respectively. Chi-square statistics for both models did not support a good fit for the models. However, the other fit indicators largely supported the models. CFI and NFI were greater than .90 for both models, while NNFI approached .90 for the help model. As outlined on the right side of Table 2, standardized coefficients for the elements of all models were significant, and corresponding standard errors were satisfactory. Willingness to help was positively associated with pity and negatively with anger ($R^2 = .09$). Responsibility inversely predicted pity and directly predicted anger. Endorsing segregation was positively associated with anger and negatively with pity ($R^2 = .13$).

Dangerousness

Table 2 also provides two versions of the dangerousness model predicting avoidance and segregation. Similar to the findings already reported, fit indicators were mixed for avoidance. Chi square did not support a good fit, but CFI and NFI did, and NNFI approached .90. The two standardized path coefficients were significant, and standard error was appropriate. Fear was positively associated with avoidance ($R^2 = .11$). Danger predicted fear, though at a fairly low level ($R^2 = .01$). Note that none of the fit indicators supported the model for danger, fear, and segregation.
### Table 2

**Summary of SEM for Various BSCS Models**

<table>
<thead>
<tr>
<th>Model</th>
<th>Fit indicators</th>
<th>Path coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$p$ for $\chi^2$</td>
<td>$\chi^2$/df</td>
</tr>
<tr>
<td>R → P → H</td>
<td>.001</td>
<td>6.58</td>
</tr>
<tr>
<td>An</td>
<td>↓</td>
<td></td>
</tr>
<tr>
<td>R → P → S</td>
<td>.001</td>
<td>14.38</td>
</tr>
<tr>
<td>An</td>
<td>↓</td>
<td></td>
</tr>
<tr>
<td>D → F → Av</td>
<td>.003</td>
<td>8.77</td>
</tr>
<tr>
<td>D → F → S</td>
<td>.0001</td>
<td>22.58</td>
</tr>
</tbody>
</table>

*Note. SEM = structural equation modeling; BSCS = Biological Sciences Curriculum Study; CFI = comparative fit index; NNFI = non-normed fit index; NFI = normed fit index; R = responsibility; P = pity; H = help; S = segregation; Av = avoid; D = danger; An = anger; F = fear. The downward-pointing arrows represent the model as presented in Path A of Figure 1: responsibility leading to feelings of either pity or anger and consequently to either helping or segregation behaviors. * For coefficient exceeds 1.96, $p < .05$.}
Effects of Gender, Ethnicity, and Grade

A second important set of questions for this study focused on demographics as moderator variables of the social cognitive models. We added three demographic variables—gender, ethnicity, and grade level—as exogenous variables in Paths A and B (left side of Figure 1). The structural equations for responsibility failed to reach good fit when all three demographic variables were included in the structural equations. Goodness-of-fit indicators ranged between .59 and .78, and chi square was highly significant ($p < .001$).

We expected that the narrow grade level of participants in this study would not provide a sufficiently broad range of cognitive development, so grade level would not fit well in the model. The results support this expectation: The standardized estimate representing the relationship between grade level and responsibility (.04) was not significant ($p > .10$). We reran the fit indicators with grade level removed from the equation. Once again, the model combining social cognitive constructs and demographics (in this case, gender and ethnicity) was not significant. Fit indicators ranged from .62 to .80, and chi square was significant ($p < .001$). None of the other models on dangerousness with demographic variables showed good fit. Hence, we conclude that gender and ethnicity failed to fit well in our models.

Discussion

The present study examined whether two models that describe the stigma of mental illness in adults also apply to children. Results were mixed, but mostly supported the comparison. Children who viewed other children as responsible for their mental illness expressed more anger and less pity toward them, which, in turn, was related to being less willing to help them and to endorsing treatment in segregated settings. This model is consistent with the assertions of Weiner’s (1995) attribution theory. In addition, children who viewed people with mental illness as dangerous were likely to be fearful of them and to try to avoid them. Note that all of the standardized estimates representing specific relationships in the two models were significant. Hence, this study shows some support for adult models of the stigmatizing processes as applied to sixth, seventh, and eighth graders.

Findings like these have implications for developing programs meant to diminish stigma. For example, avoidance is an especially important variable in understanding behavior in children. It may explain why some people who are labeled as different because of mental illness are ostracized by their peers. Hence, antistigma programs wishing to enhance the quantity and quality of interactions between children who are labeled mentally ill and their peers would benefit from these kinds of findings. Most of the research in this area
targets the prejudice related to ethnicity. Therefore, our conclusions here are based on extrapolation of these findings.

Aboud and colleagues (Aboud & Doyle, 1996; Aboud & Fenwick, 1999) hypothesized that peers might be better resources for stigma change because they are less likely to censor opinions about a topic and because the cognitive style of communication is automatically at the level of a same-age peer. A typical format for this kind of strategy is to pair a low-prejudiced child with a same-age, familiar, high-prejudiced child. The dyad is then presented with a stimulus picture (e.g., for racial prejudice, separate pictures of a Black child and a White child), asked to rate the person in the picture across a series of positive (the child is neat, honest, a nice person) and negative (the child is a bully, lazy, and dirty) values. Of more importance, the dyad is asked to discuss their rationale for each rating.

Interestingly, observers of these dyads have noted that neither the high-nor the low-prejudiced child attempted to dissuade his or her partner in terms of rating or rationale. Of further note, although it was clear at the beginning of these discussions who was the high- and low-prejudiced child, the dyad appeared quite similar in response by the end of the discussion (Aboud & Doyle, 1996; Aboud & Fenwick, 1999). More balanced evaluation of in-groups and out-groups corresponded with descriptions of Whites with more negative attributes and Blacks with more positive features.

Other research on peer collaboration has shown that the solutions generated by participants are more mature than their initial positions (Chapman & McBride, 1992). Specific qualities of the interaction seem to facilitate positive gains. For example, expression of contradictory positions along with an explanation is better than agreement and is better than no explanation (Nelson & Aboud, 1985). Interpretive statements that exceed mere description are instrumental in helping dyads to achieve more balanced statements (Teasley, 1995; Ticao & Aboud, 1998). Future research must adapt these findings to change children’s attitudes about mental illness.

The present study examined the inclusion of demographics in the social cognitive model. Results failed to find good fit in the models that incorporated grade, ethnicity, and gender. We argued that students in Grades 6 through 8 are fairly homogeneous in terms of cognitive development. This limited variance would fail to yield significant grade effects in the model. In our previous research, ethnicity represented mostly African Americans (Corrigan et al., 2001; Schnittker et al., 2000). Non-White research participants in the present study were largely Hispanic (53.6% of the non-White sample). Cultural differences between Hispanics and African Americans may explain the absence of significant effects for ethnicity. Moreover, language differences between African Americans and Hispanics may have resulted in the lack of support for ethnicity in our models.
The lack of good fit for the model with gender is more difficult to explain. In a comprehensive review of studies on gender and mental illness stigma, Farina (1998) found no significant effects between men and women in some studies. The absence of a significant model fit in our study replicates some of Farina’s conclusions.

The present study was limited by the relatively small $R^2$ describing the size of the relationship between endogenous variables and other elements of the path. Hence, the models used in this study were limited in their explanation of discriminatory behaviors and accounted for significantly less variance than those found in the adult samples (Corrigan et al., 2002, 2003). As alluded to previously, perhaps this difference is a result of the participants being children. Absent from the present study was assessment of cognitive stage and how it may have influenced endorsing aspects of the stigma model. In particular, we hypothesize that development of abstract cognitive processes will be an especially important mediator of stigma. This is an interesting construct that must be integrated into future studies.

References


