Adjustment problems in the family and school contexts, attitude towards authority and violent behaviour at school in adolescence

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Abstract

The main purpose of the present study was to analyse the role of different but interrelated variables relative to the family and school contexts in relation to problems of violent behaviour at school in the adolescent period. Participants were 1068 adolescents aged 11 to 16 (47% male) drawn from secondary schools in the Valencian Community (Spain).

Statistical analyses were carried out using structural equation modelling. The model accounted for 32% of the variance in school violent. Results showed a direct association between quality of communication with father and teacher’s expectations about the student, with the adolescent’s involvement in violent behaviour at school. Moreover, findings showed indirect paths, where adolescent’s self-concept (family and school domains), acceptance by peers, and attitude towards authority, seemed to be influenced by quality of interactions with parents and teachers, and also be closely associated with violent behaviour at school.

Findings are discussed in relation to previous research on adolescent psychosocial adjustment and behavioural problems at school.

Key words: adolescence, family communication, teacher, attitude to authority, school violence.
Adjustment problems in the family and school contexts and violent behaviour at school in adolescence

Research analysing behavioural problems among children and adolescents in school has been increasing steadily since the 1980s, due probably to the growing frequency and seriousness of these problems in the United States and some European countries (Skiba, 2000; Smith, 2003). These behavioural problems involve both antisocial behaviour (theft, vandalism and damage to school property) and aggressiveness (verbal and physical violence towards teachers and classmates) (Astor, Pitner, Benbenishty, & Meyer, 2002; Herrero, Estévez, & Musitu, in press). Regarding factors that may underlie these problems, previous research from an ecological point of view, has documented an association between violent behaviour in adolescence and adjustment problems in both family and school contexts.

Prior studies examining the association between family variables and violent behaviour at school have shown that a negative family environment characterized by problems of communication between parents and children is an important risk factor for the development of behavioral problems in the adolescent period (Demaray & Malecki, 2002; Estévez, Musitu, & Herrero, 2005a). Recent investigations point out that the quality of communication with parents is closely related to adolescent’s behavioural and psychological adjustment (Liu, 2003; Stevens, De Bourdeaudhuij, & Van Oost, 2002); on the contrary, negative and offensive communication with parents may lead to misbehaviours in children (Lambert & Cashwell, 2003; Loeber, Drinkwater, Yin, Anderson, Schmidt, & Crawford, 2000). Another variable relative to the family context and considered in the scientific literature about problems of behaviour in children, is the family self-concept. The negative family self-concept, which is, moreover, strongly associated with the parent-adolescent negative communication style (Jackson, Bijstra, Oostra, L. & Bosma, 1998; Musitu & Cava,
Some previous research has also analysed the relationship between school variables and students showing behavioural problems, indicating that adolescents who are violent in the school context also have more negative interactions with teachers (Blankemeyer, Flannery & Vazsonyi, 2002; Jack, Shores, Denny, Gunter, DeBriere, & DePaepe, 1996; Meehan, Hughes, & Cavell, 2003; Murray & Murray, 2004), have lower levels of school self-concept (Andreou, 2000; Boders, Earleywine, & Huey, 2004; O’Moore y Kirkham, 2001), and in some cases are not accepted and rejected by peers (sociometric status) (Hay, Payne, & Chadwick, 2004; Rubin, Bukowski, & Parker, 1998; Werner, 2004). It has been also shown that violent adolescents normally hold more negative attitudes towards institutional authorities such as the police, the law, and also the school and teachers (Adair, Dixon, Moore, & Sutherland, 2000; Emler, Ohana, & Dickinson, 1990; Emler & Reicher, 1995). Moreover, recent studies point out important links among these school variables: for instance, adolescents with low sociometric status (rejected by peers) tend to show a negative school self-concept, as well as negative attitudes to the school context (Estévez et al., 2006). It could be possible, thus, that some of these factors jointly contribute to the understanding, at least in part, of school violence.

This and other significant questions should be answered if we are to understand the relationship between adjustment problems in the family and school contexts and violent behaviour in adolescence. For example, very little research has also jointly considered the role of father, mother, and teacher on adolescent behavioural problems. Regarding parental figures, research has traditionally examined the influence of mother on child’s adjustment (Berg-Nielsen, Vika, & Dahl, 2003; Rey, 1995), while recent studies suggest that fathers and mothers may each independently contribute to the explanation of some behavioural problems.
in children (Veneziano, 2000). Along this line, some authors suggest that the closer association is between positive father-child relationship and adolescent’s psychosocial adjustment (Estévez et al., 2005a, 2005b; Rohner & Veneziano, 2001).

Taking into account these findings from the literature, the main purpose of the present study was to analyse the role of different but interrelated variables relative to the family and school contexts in relation to problems of violent behaviour at school in the adolescent period. The family variables included in the study were quality of communication with father and mother, and family self-concept, and the school variables considered were interaction with teacher, acceptance/rejection by peers (sociometric status), school self-concept, and attitude towards institutional authority. It was expected that the quality of the relationship between the adolescent and their parents and teachers would be associated with the adolescent’s positive self-concept (in the family and school domains), acceptance by peers, and positive attitudes towards authority, which in turn would be related to lower levels of violent behaviour at school.

Method

Participants

Participants in the study were 1068 adolescents attending secondary education at the time of the research in four public schools of the Valencian Community (Spain). Age ranged from 11 to 16 years old (mean age 13.7; s.d. 1.6), and gender was distributed approximately equal in the sample: 47% were boys and 53% were girls. For multi-group analyses, we split the sample into two age groups corresponding respectively to early adolescence (11-13 years-old; 45.4% of the total sample) and mid adolescence (14-16 years-old).

Procedure

Data for this research were collected as part of a larger study about adjustment problems in adolescence. After pre-contacts were made with several public schools selected
at random, four schools finally participated in the study mostly based on their availability and the willingness of staff to collaborate in the investigation. Following initial contact with head teachers, all teacher staff were informed of the objectives of the study during a two-hour presentation. In parallel, a letter describing the study was sent to the parents requesting that they indicate in writing if they did not wish their child to participate in (all parents agreed to the participation of their children). However, both teachers and parents expressed a wish be informed about the main results of the investigation in a meeting with the research team; this took place once data analyses were completed. Participants anonymously filled out the scales during a regular class period. All measures were administered within each classroom on the same day. Finally, teachers were also asked to complete a teacher report for each participating adolescent.

Measures and Instruments

Adolescent’s Communication with Parents was measured using the 20-item Parent-Adolescent Communication Scale (PACS; Barnes & Olson, 1982). Adolescents described communication with their parents on a five-point scale (1 = never, 5 = always). The original scale showed a two-factor structure referring to degree of openness and extent of problems in family communication (coefficients alpha .87 and .78; test-retest reliabilities .78 and .77, respectively). However, as with other recent studies (see Feldman & Rosenthal, 2000), we could not replicate this factor structure in our data. Principal component analysis yielded a three-factor structure for father and mother separately. The first factor explained 30.66% of variance, defined by ten items referring to open communication with parents (e.g. “my mother/father is always a good listener”). The second factor explained 21.85% of variance and was defined by six items referring to offensive communication with parents (e.g. “my mother/father insults me when she/he is angry with me”). Finally, the third factor explaining 9.52% of variance was defined by four items referring to avoidant communication with
parents (e.g. “I am sometimes afraid to ask my mother/father for what I want”). Cronbach’s reliability coefficients for these subscales in the present study were .87, .76 and .75 respectively.

Family and School Self-Concept were measured using the family and school subscales of the Self-Concept Form-A Scale (AFA) (Musitu, García, & Gutiérrez, 1994). The AFA has been widely used in the Spanish population and provides information about the adolescent’s family self-concept (e.g. “I have confidence in my parents”), and school self-concept (e.g. “I’m a good student”), on a 3-point scale (1 = never, 2 = sometimes, and 3 = always). Cronbach alphas for these subscales in the present study were .79 and .86 respectively.

Attitude towards Institutional Authority was assessed using a scale adapted from Reicher and Emler (1985). This scale consisted of 14 items rated on a four-point scale (1 = I totally disagree, 4 = I totally agree”) referring to attitude towards teachers and school. This scale showed a two-factor structure using principal component analysis: the first factor (25.74% of variance) was defined by eight items referring to attitude towards school and teachers (e.g. “I agree with what my teachers say and do”; “It is usual to disobey teachers if there is not any punishment’, inverse coded), while the second factor (21.71% of variance) was defined by six items referring to perception of injustice (e.g. “Teachers only take care of students with good marks”). Cronbach alphas for these subscales were .77 and .73 respectively.

Violent Behaviour at School was measure using the Violence Behaviour Scale (Herrero et al., in press). On this scale, adolescents indicated the frequency with which they engage in 19 deviant behaviours at school in the last 12 months on a six-point scale (0 = I don’t want to share this information, 1 = never, 5 = many times) (e.g. “I got into fights at
Family, school, attitude and violent behaviour

Sociometric Status was assessed using the Sociometric Questionnaire. This instrument allows evaluation of the basic structure of relationships in a group. This kind of questionnaire is not standardised; rather, it is prepared by the researcher following specific criteria for the group whose structure of relationships is being studied. In the present study, this scale was used to obtain information about the social structure of interactions between students in the same class. The questionnaire was comprised of 2 items, grouped in accordance with the sociometric criterion of "teamwork". Participants were asked to give positive selections ("With whom would you prefer to work in team?") and negative selections ("With whom would you prefer not to work in team?"). The method required respondents to nominate three classmates listed in order of preference. The positive and negative nominations received from peers provided indexes of peer acceptance and peer rejection, respectively. Following Coie, Dodge and Coppotelli’s procedure (1982), an index of social preference named sociometric status, was formed from these positive and negative scores.

To complete the sociometric questionnaire, students were provided a class roster with numbers. To preserve anonymity of students’ responses, each name was assigned a number and students were instructed to complete the sociometric questionnaire by writing the numbers instead of the names of classmates. Students were also asked to write their own number on the top of the questionnaire and were told to not write their name on the response sheets. Students were instructed to keep their answers private and were given sheets to cover their responses.

Teacher’s Perception of Students was measure using an instrument constructed for the present study (LISIS Team, University of Valencia, 2006). In Spanish schools there is a head instructor for each classroom who spends more time with students than other teachers from school”). Approximately 7% of respondents chose the “0” response for some items; these participants were removed from the analysis. Cronbach alpha for this scale was .84.
the school staff. A total of 44 head instructors filled out the Teacher’s Perception of Student Scale in order to estimate, on a ten-point scale (1 = very bad, 10 = very good), levels of (1) adolescent’s social integration at school, (2) academic success, and (3) quality of teacher-student relationship for each student in his/her classroom (teachers’ response rate: 100%). To complete this scale, all head instructors used the numbers previously assigned to students instead of their names.

As regards the validity of the measures used in the study, previous research has shown adequate predictive validity for all the scales. For instance, high levels of family and academic self-concept have been shown to predict low levels of psychological distress and measures of family functioning (Musitu et al., 1994; Musitu & García, 2004). The three dimensions of the Parent-Adolescent Communication Scale have also been found to be significantly associated with several outcomes in the Spanish adolescent population; for instance, Estévez et al. (2005a) found that low scores for open communication and high scores for offensive and avoidant communication were associated with high levels of psychological distress, a poorer relationship with teacher, and high levels of school-based violent behaviour. The Attitude towards Institutional Authority Scale has also shown a close link with high levels of aggression and violence in adolescence (Emler & Reicher, 1995). As regards the Teacher’s Perception of Students Scale, previous work has reported an association between negative teacher’s perception of students and behavioural problems at school (Estévez et al., 2005a; Herrero et al., in press).

Results

Preliminary correlational analyses among all study variables were carried out (see Table 1). Variables concerning interaction with parents and teachers were significantly associated with adolescent’s self-concept, sociometric status, attitude towards institutional
Family, school, attitude and violent behaviour

authority, and violent behaviour at school. Therefore, all these variables were included in the
subsequent regression analysis.

We used EQS 6.0. (Bentler, 1995) Structural Equation Program to examine the
relationships among all these variables. Santorra-Bentler corrected statistics were considered
to account for the non-normality of the data (normalized estimate = 34.894). The model
showed a reasonably good fit, as these indexes indicate: CFI = .98, IFI = .98, NNFI = .97, and
RMSEA = .038. For the CFI, IFI, and NNFI values above .95 or higher are acceptable, and
for the RMSEA values above .05 or less are acceptable (Batista & Coenders, 2000). This
model explained 32% of variance in Violent Behaviour.

Table 2 reports all factor loadings of the observed variables on their latent variables.
Open communication, offensive communication, and avoidant communication were used as
indicators of the latent variables Communication with Father and Communication with
Mother. Adolescent’s social integration at school, academic success, and relationship with the
teacher, were used as indicators of the latent variable Teacher’s Perception of Student.
Attitude towards school and teachers and perception of injustice were used as indicators of
the latent variable Attitude towards Institutional Authority. Finally, because Family Self-
concept, School Self-concept, Sociometric Status, and Violent Behaviour at School each had
only one indicator, the factor loading was 1 with an error 0.

Figure 1 shows the final structural model with the standardized path coefficients and
their confidence intervals. We found correlated errors between communication with father
and mother (r = .69, p < .001), communication with father and teacher’s perception of student
(r = .20, p < .001), and communication with mother and teacher’s perception (r = .21, p <
.001) (these correlations are omitted in the figure).
Results showed communication with father and teacher’s perception to follow direct paths ($\beta = -.19, p < .001, \beta = -.10, p < .001$, respectively). This finding suggests that both positive communication with father and teacher’s positive expectations, are factors related to lower levels of violent behaviour at school. Moreover, communication with both parents and teacher’s perception also followed indirect paths. On the one hand, open communication with parents (especially with mother) seemed to be closely associated with adolescent’s positive family self-concept ($\beta = .53, p < .001$ mother, and $\beta = .19, p < .001$ father), which was in turn strongly related to school self-concept ($\beta = .26, p < .001$). As the model indicated, school self-concept and positive attitude towards authority are also interrelated factors ($\beta = .47, p < .001$) that showed a negative significant relationship with violent behaviour at school ($\beta = -.47, p < .001$). On the other hand, there is an indirect path followed by teacher’s perception, where teacher’s positive expectations about students were strongly associated with peer acceptance (sociometric status) ($\beta = .91, p < .001$), which was in turn positively related to school self-concept ($\beta = .50, p < .001$).

In order to test the measurement and structural invariance of the general model across gender and age groups we conducted multi-group analyses. Two models were tested for each multi-group comparison. In the first between-group model (unrestricted model) all parameter estimates (factor loadings and structural paths) were freely estimated across groups. In the second (restricted model), each of the factor loadings and structural paths were constrained to be invariant across groups. If the chi-square for the restricted model was significantly larger than the chi-square of the unrestricted model, the assumption of invariance would not be tenable. Results indicated a non-significant difference between these models for age groups: $\Delta \chi^2(27, N = 1049) = 38.34, \text{ns}$. In the case of gender a significant difference was found $\Delta \chi^2(27, N = 1049) = 44.16, p < .001$. Closer inspection of cross-group constraints revealed
that 7 out of 27 constraints would significantly decrease $\chi^2$ if released. After releasing these constraints, the unconstrained and the constrained models for gender groups were statistically equivalent -$\Delta \chi^2(27, N = 1049) = 32.97$, ns. Results supported, therefore, invariance of the general model across gender and age groups.

Discussion

The present study aimed to analyse the role of different but interrelated family and school variables in relation to adolescent’s involvement in violent behaviour at school. As expected, the quality of the interaction among adolescents, parents and teachers was associated with levels of violent behaviour, both directly and indirectly, through the influence in the adolescent’s self-concept, sociometric status, and attitude to formal authority. When examining the direct relationships regarding communication with father and mother and teacher’s perception, we found two significant direct and negative associations. In these respects, our results suggested that the positive father-child communication, as well as the teacher’s positive expectations about students, may be protective factors in relation to development of problems of violent behaviour at school. These finding are in line with those recently reported by Rohner and Veneziano (2001) and by Welsh et al. (2004), who have emphasised the close link between quality of father-child relationship and adolescent’s adjustment. Some previous studies have also revealed an association between violent behaviour at school, problems of interaction with teachers, and teachers’ negative perception of students (Estévez et al., 2005a; Murray & Murray, 2004).

Furthermore, the structural model calculated showed two indirect paths, one relating to parents and the other to teachers. Regarding parents, we found a link between open communication with both father and mother and adolescent’s positive family self-concept, which was in turn related to positive school self-concept. This finding is consistent with those reporting that positive family communication between parents and children is associated with
the adolescent’s psychological well-being, high levels of self-esteem, and positive self-concept in different domains (Estévez et al., 2005b; Fletcher, Steinberg, & Sellers, 1999; Jackson, et al., 1998).

With regard to teachers’ perceptions, results indicated the existence of a strong relationship between these perceptions and sociometric status in the classroom, while the latter was in turn also associated with school self-concept. This finding suggests that a positive evaluation by the teacher is related to high social status for the student (popular and liked by peers) and, moreover, that students who are positively perceived by both teacher and classmates exhibit higher levels of school self-concept. In contrast, when teachers have more negative perceptions of students, this is closely linked to low sociometric status (students are rejected and disliked by peers), in turn leading to low levels of school self-concept. As recent studies have indicated, teachers may affect social relationships in the classroom, since teacher’s beliefs, expectations, and perceptions may influence students’ beliefs, expectations, and peer preferences in relation to classmates (Birch & Ladd, 1998; Trouilloud, Sarrazin, Martinek, & Guillet, 2002; Zettergren, 2003). Furthermore, it has been found that students with low social status in the classroom normally show lower levels of school self-concept (Hymel, Bowker, & Woody, 1993; Ladd, 1999).

School self-concept appeared to have a strong association with student’s attitudes towards institutional authority; in other words, adolescents who obtained lower scores for school self-concept showed less respect towards school and teachers and perceived more injustice at school. In a recent study, Levy (2001) found a similar trend in self-concept and attitude towards authority scores in a sample of adolescents. Nevertheless, the relationship among student’s attitude and the different dimensions of self-concept has hardly been considered in research focused on adolescent violent behaviour at school, while the scant data
we have from the scientific literature suggest that these variables may jointly explain, at least in part, behavioural problems in the school context (Haynes, 1990).

The relationship between attitude to institutional authority and violent behaviour in adolescence has been more extensively documented. Adolescents who show behavioural problems at school express a more negative attitude towards formal figures and institutions, such as teachers and the school context (Emler & Reicher, 1995, 2005; Adair et al., 2000). This negative attitude, as our results also indicated, seems to be a very important risk factor in the development of behavioural problems (Hoge, Andrews, & Lescheid, 1996; Loeber, 1996). However, attitude towards institutional authority may also be a protective factor, since a positive attitude to school and teachers has been positively related to behavioural adjustment in adolescence (Moncher & Miller 1999; Thornberry, 1996).

Finally, the following limitations are acknowledged. Although data in the present study were collected from different sources (adolescents, their classmates, and their teachers), many of the measures used are self-reported and response bias might impact the validity and generalizability of the study findings. It would be desirable, therefore, in future research to obtain additional data from parents (for example, regarding perception of family communication) to better understand the associations analyzed in this study. Moreover, as the present study used a cross-sectional design, caution is justified in making causal inference on the basis of the data available. For instance, there is ample evidence for both causal directions of attitude-behaviour relations (Holland, Verplaken, & van Knippenberg, 2002). Greater confidence about the causal direction of influences would require a longitudinal study.
Acknowledgements

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Table 1

Correlations among Observed Variables

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<td>2. Mother-Offensive communication</td>
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<td>3. Mother-Avoidant communication</td>
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<td>4. Father-Open communication</td>
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<td>-.30***</td>
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<td>5. Father-Offensive communication</td>
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<td>6. Father-Avoidant communication</td>
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<td>-.32***</td>
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<td>7. Teacher-Relationship with the teacher</td>
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<td>8. Teacher- Social integration at school</td>
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<td>-.15***</td>
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<td>9. Teacher-Academic success</td>
<td>.14**</td>
<td>-.20***</td>
<td>-.05</td>
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<td>12. Perception of injustice</td>
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<td>.12***</td>
<td>-.09**</td>
<td>.09**</td>
<td>-.14***</td>
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<td>13. Sociometric Status- Acceptance</td>
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<td>-.04</td>
<td>-.09</td>
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<td>.14***</td>
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<td>-.16***</td>
<td>.07</td>
<td>.34***</td>
<td>-</td>
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</tbody>
</table>

Note: variables are standardized.

*p < .05; **p < .01; ***p < .001
Table 2

Unstandardized Parameter Estimates, Standard Errors, and Significance Levels

<table>
<thead>
<tr>
<th>Variables</th>
<th>Factor loadings</th>
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<td>Open communication</td>
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<td>(0.069)</td>
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<td>(0.049)</td>
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<tr>
<td>Offensive communication</td>
<td>-1 **</td>
</tr>
<tr>
<td>Communication with Father</td>
<td></td>
</tr>
<tr>
<td>Open communication</td>
<td>1.258***</td>
</tr>
<tr>
<td>(0.088)</td>
<td></td>
</tr>
<tr>
<td>Avoidant communication</td>
<td>-0.654***</td>
</tr>
<tr>
<td>(0.058)</td>
<td></td>
</tr>
<tr>
<td>Offensive communication</td>
<td>-1 **</td>
</tr>
<tr>
<td>Teacher’s Perception</td>
<td></td>
</tr>
<tr>
<td>Academic success</td>
<td>1.477***</td>
</tr>
<tr>
<td>(0.090)</td>
<td></td>
</tr>
<tr>
<td>Social integration at school</td>
<td>1.094***</td>
</tr>
<tr>
<td>(0.053)</td>
<td></td>
</tr>
<tr>
<td>Relationship with the teacher</td>
<td>1 **</td>
</tr>
<tr>
<td>Attitude towards Institutional Authority</td>
<td></td>
</tr>
<tr>
<td>Perception of injustice</td>
<td>-0.843***</td>
</tr>
<tr>
<td>(0.072)</td>
<td></td>
</tr>
<tr>
<td>Attitude towards school and teachers</td>
<td>1 *</td>
</tr>
<tr>
<td>Violent Behaviour at School</td>
<td>1 *</td>
</tr>
<tr>
<td>Sociometric Status (acceptance by peers)</td>
<td>1 *</td>
</tr>
<tr>
<td>School Self-Concept</td>
<td>1 *</td>
</tr>
<tr>
<td>Family Self-Concept</td>
<td>1 *</td>
</tr>
</tbody>
</table>

Robust statistics. Standard errors are in parenthesis.

* Fixed to 1.00 during estimation.

***p < .001 (two-tailed test)
Figure Caption

Figure 1. Final structural model\(^1\)

\(^1\)Continuous lines represent significant paths among latent variables. Robust standard errors were used to determine the significance of the standardized paths (**p < .01; ***p < .001). Manifest indicators are omitted.