

Research Article

IS ADOLESCENT GENERALIZED ANXIETY DISORDER A MAGNET FOR NEGATIVE PARENTAL INTERPERSONAL BEHAVIORS?

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Background: Previous studies have found that perceived parental interpersonal interaction behaviors, such as rejection, overcontrol, and negative attachment behaviors, increase adolescent generalized anxiety disorder (GAD) symptoms. However, most of these studies have been cross-sectional, as opposed to longitudinal, and have examined these perceived parental interaction behaviors individually. Hence, the goal of this longitudinal study is to examine these perceived parental behaviors and adolescent GAD symptoms together, in one model, to examine the unique effects each has on one another. **Methods:** Participants were 923 adolescents from the general community. The adolescent population was comprised of both boys (50.7%) and girls (49.3%) with an average age of 12 at the first measurement. In a prospective, 5-year longitudinal design, the adolescents completed questionnaires of parental interaction behaviors and adolescent GAD symptoms on the first, third, and fifth years of the study. **Results:** Structural equation modeling cross-lagged panel model analyses were conducted to examine the effects perceived parental interaction behaviors and adolescent GAD have on one another. It was found that adolescent GAD consistently predicted parental interpersonal interaction behaviors longitudinally. **Conclusions:** It is suggested that adolescent GAD influences the perception of parental interpersonal behaviors. And the influence adolescent GAD may have on these perceived parental interpersonal behaviors is to create an environment in which the parents are perceived to begin to disengage in their interactions with their adolescent. *Depression and Anxiety 30:849–856, 2013.* © 2013 Wiley Periodicals, Inc.

Key words: adolescent; attachment; generalized anxiety disorder; overcontrol; parents; parental behaviors; rejection; worry

INTRODUCTION

Generalized anxiety disorder (GAD) is a severe disorder that many times has an early and gradual onset,

which can lead to a chronic course.^[1] Additionally, sufferers of GAD place a strong burden on the primary care setting.^[2] Recent prospective, longitudinal studies of the developmental trajectories of GAD symptoms of adolescents from the general population have found that GAD symptoms are not something that adolescents simply “outgrow,” but instead continues on into early adulthood.^[3,4] Therefore, research into factors that

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contribute to the development of adolescent GAD is needed to gain more insight into the nature of this pathology.

The core symptom of GAD is excessive, persistent, and uncontrollable worry^[5] and it has been noted that a significant component of the worry of GAD sufferers centers on interpersonal difficulties.^[6] In respect to adolescents, it is suggested that a focus of GAD centers on social-evaluative concerns in interpersonal interactions.^[7] Hence, research of the factors involved in adolescent GAD symptoms, such as worry, also should be conducted into the adolescent's perception of interpersonal interaction behaviors that are involved in the adolescent's social-evaluative concerns, specifically parental interpersonal interaction behaviors.^[8]

GAD AND PARENTAL BEHAVIORS

In a review of the literature, Bögels and Brechman-Toussaint^[8] have noted that two important interpersonal behaviors that have been significantly related to the social-evaluative concerns of adolescents with GAD are their perceptions of parental rejection and parental overcontrol. Perceived parental rejection refers to the adolescent perceiving hostile criticism and rejecting attitudes on the part of their parents.^[9] The adolescent perceiving their parents to be pressuring, intrusive, and dominant in relation to the adolescent's feelings, thoughts, and behaviors characterizes perceived parental overcontrol.^[10]

In respect to adolescent GAD symptoms, cross-sectional studies have demonstrated significant relationships between the adolescents' perception of parental overcontrol and GAD symptoms.^[11] In addition to the perception of parental rejection and overcontrol, Bögels and Brechman-Toussaint^[8] suggest that previous findings are supportive of the position that adolescent's perceptions of an insecure attachment relationship to their parents reinforces general anxiety development. Perceived negative attachment refers to interactions adolescents have had and still have with their parents, which plays a role in the adolescent's mental representations of him or herself and others. Although many times attachment is measured by observations, adolescent perceived negative attachment is measured by directly asking the adolescent about his or her attachment by means of a questionnaire. Specifically regarding adolescent GAD, Dugas^[12] has also suggested that adolescent perception of insecure attachment may contribute to the development of worry and other GAD symptoms. In a recent study of 7–18 year olds, it was also demonstrated that child and adolescent rated parental rearing behaviors, such as perceived parental rejection and perceived negative attachment, were positively related to child and adolescent worry.^[13]

AIMS OF THE CURRENT STUDY

As has been noted in the review of the literature by Bögels and Brechman-Toussaint,^[8] two major problems

that have occurred in many previous studies of perceived parental interpersonal behaviors (such as parental rejection, overcontrol, and attachment behaviors) and adolescent anxiety is that the studies have been predominately cross-sectional. Additionally, they have also noted that many times these studies have only addressed general anxiety problems as opposed to specific anxiety disorder symptoms such as GAD symptoms. It should also be noted that a large majority of these previous studies have studied these perceived parental interpersonal behaviors in isolation from one another as opposed to in one and the same design. An important reason to include perceived parental interpersonal behaviors in one and the same design is to allow an examination of the unique effects each of these parental behaviors had on adolescent GAD when these behaviors are compared to one another.

Therefore, the goal of this study is to explore in one and the same design how adolescent perceptions of parental interpersonal behaviors (i.e., parental rejection, overcontrol, and attachment behaviors) and adolescent GAD symptoms are related to one another longitudinally to examine the unique effects each has on one another. In addition to this, it is also explored whether the effects of adolescent perceptions of parental behaviors affect adolescent boys and girls differently in respect to adolescent GAD symptom scores. The reason for such exploring of potential gender differences is twofold. First, in respect to gender differences, it has been found that females have a tendency to be more sensitive to interpersonal interactions than male adolescents.^[14] Second, studies have found that adolescent GAD symptoms are more common in girls than in boys.^[15] It is for these reasons that this study will also explore not only adolescents as a group, but also potential gender differences.

Since it is clear that these perceived parental interpersonal behaviors are strongly related to adolescent GAD, but have generally been studied in isolation from one another, no specific hypotheses can be drawn. Therefore, this study will test both possible unidirectional effects (i.e., either a parent effects or a child effects model), as well bidirectional effects.

METHODS

PARTICIPANTS

Data for this study were collected as part of a five-wave longitudinal research project on Conflict And Management Of Relationships (CONAMORE) with a 1-year interval between each of the waves. Data on the measures used in the current study were collected on three waves, with a 2-year interval between each of the waves. The longitudinal sample consisted of 923 Dutch adolescents (50.7% boys and 49.3% girls), who were 12.4 years of age on average ($SD = 0.59$) during the first wave of measurement. A majority (83.4%) identified themselves as Dutch, and 16.6% indicated that they belonged to an ethnic minority (e.g., Surinamese, Antillean, Moroccan, Turkish). Our percentage of ethnic minorities closely reflects that of the general Dutch population; in a previous study it was estimated that 15% of the youths in the Netherlands (ages 0–25 years) came from non-Western countries.^[16] As they were assessed during three measurement waves, with 2-year

intervals between the waves, a total age range from 12 to 16 years was available.

Sample attrition was 4.0% across waves: in waves 1, 2, and 3 the number of participants were 923, 906, and 886, respectively. Missing values were estimated in SPSS using the EM procedure. Across waves 12.2% of the data were missing. Little's Missing Completely At Random Test^[17] revealed a normed χ^2 (χ^2/df) of 1.29, which, according to guidelines by Bollen,^[18] indicates a good fit between sample scores with and without imputation.

PROCEDURES

The participating adolescents were recruited from various, randomly selected schools in the province of Utrecht, The Netherlands. Of the schools that were approached, 60% decided to participate. Participants and their parents received an invitation letter that described the research project and goals and that also stated that the adolescent could decline from participating. Less than 1% elected not to participate. Consent was also obtained from all the participating schools. The study, and its assent and consent documents, were approved by the Research Review Board (Utrecht) of the Dutch Institute for the Study of Education and Human Development. Adolescents received €10 (approximately US \$15) as a reward for every wave they participated in.

MEASURES

GAD Worry Symptoms. The 9-item GAD symptoms scale of the original 38-item SCARED questionnaire (The Screen for Child Anxiety Related Emotional Disorders)^[19] was employed in this study. Psychometric properties of the of the Dutch translation of the SCARED have been shown to be good both in a large scale Dutch adolescent community sample^[20] as well in an international meta-analysis of African, Asian, European, and North American children and adolescents which included the Dutch translation of the SCARED.^[21] In the present research, Cronbach's alphas of the GAD scale ranged from 0.85 to 0.87 across waves.

Perceived Parental Rejection. The perceived parental rejection measure of this study was derived from the hostile criticism subscale of the Level of Expressed Emotion questionnaire (LEE).^[22,23] Reliability and construct validity of the Dutch translation of the LEE have been shown to be strong for both Dutch adults^[22] and Dutch adolescents.^[23] In the current study, Cronbach's alphas for this subscale ranged from 0.69 to 0.77.

Perceived Parental Overcontrol. Perceived parental overcontrol was measured by the psychological control (10-items) and the overinvolvement (8-items) subscales of the Children's Reports of Parental Behaviour Inventory (CRPBI).^[24] In a previous study of the Dutch translation of the CRPBI and Dutch adolescent GAD symptoms, it was demonstrated that the CRPBI has good psychometric qualities and was strongly related to Dutch adolescent GAD symptoms.^[25] In this study, Cronbach's alphas for these subscales ranged from 0.85 to 0.88 (psychological control) and 0.55 to 0.73 (overinvolvement), across the three measurement waves.

Perceived Parental Attachment. Both negative and positive perceived parental attachment were measured with the alienation (for insecure attachment), and the trust and communication (for secure attachment) subscales of the short version of the Inventory of Parent and Peer Attachment (IPPA).^[26,27] The IPPA has been shown to be a good measure of adolescent perceptions of their attachment to their parents.^[28] In a previous study, it has demonstrated that the IPPA has good alpha's and predictive qualities for Dutch adolescent GAD symptoms.^[29] In this study, Cronbach's alphas ranged from 0.82 to 0.86 (parental alienation), 0.87 to 0.93 (parental trust), and 0.82 to 0.86 (parental communication).

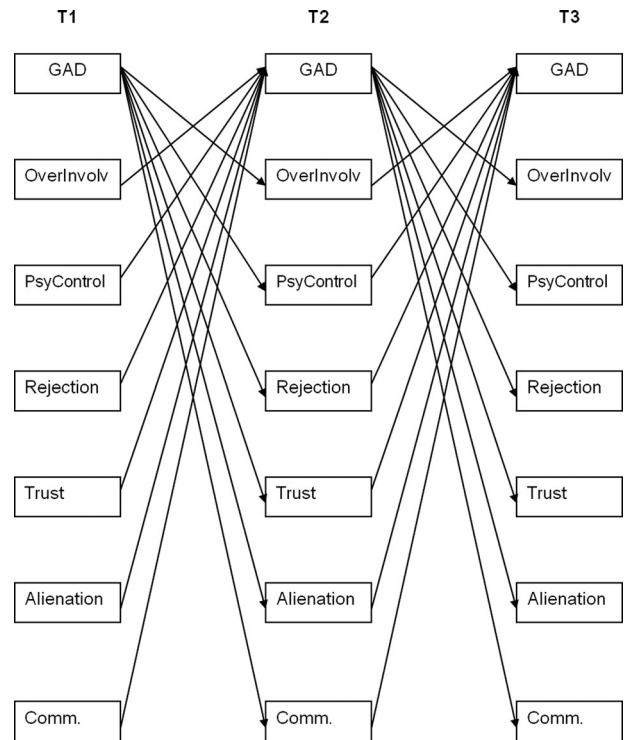


Figure 1. Sample cross-lagged panel model with adolescent GAD symptoms and the six perceived parental interpersonal behaviors (i.e., Over-Involvement (OverInvolv), Psychological Control (PsyControl), Rejection, Trust, Alienation, and Communication (Comm.)). Only the cross-lagged regression paths are presented in this figure, but in the actual model all stability paths (e.g., GAD T1 -> GAD T2, GAD T2 -> GAD T3, GAD T1 -> GAD T3; see Table 1) for adolescent GAD and perceived parental interpersonal behaviors were also estimated. In addition, estimations were calculated for all possible associations between the variables included in the model. These associations are depicted in Table 2.

STATISTICAL ANALYSES

The main focus of this study was an examination of the cross paths from adolescent GAD worry symptoms to perceived parental interaction behaviors (i.e., T1¹ adolescent GAD worry symptoms to T2 perceived parental interaction behaviors, and T2 adolescent GAD worry symptoms to T3 perceived parental interaction behaviors) and the cross paths in the inverse direction. This theoretic model is presented in Fig. 1.

Although the focus of this study is directed on the predictive relationship adolescent GAD and perceived parental interaction behaviors have on one another, the relative stability paths of the same variable across the waves (e.g., T1 adolescent GAD worry symptoms to T2 adolescent GAD worry symptoms), as well as the within-time correlations between all the variables (e.g., T1 adolescent GAD worry symptoms with T1 Trust) are also estimated in cross-lagged panel models, in order to prevent that the predictive relationships that are studied are not artificially inflated. An important advantage that such models hold over cross-sectional univariate models is that possible other effects of the studied variables are controlled for within the same model.

¹Waves 1-3 are labeled as T1-T3.

We first tested a cross-lagged panel model with the three consecutive annual measurements of adolescent GAD and perceived parental interpersonal behaviors in Mplus.^[30] Maximum Likelihood Robust (MLR) estimation was used as MLR has been shown to be the most accurate estimator when the distribution of scores deviates slightly from a normal distribution,^[31] as happens to be the case with our GAD measure. Before these interrelations between adolescent GAD and perceived parental interpersonal behaviors could be explored, it was essential to determine if the statistical fit of this theoretic model was either strong or weak. To judge model fit, two of the best-known structural equation modeling model fit indices, the comparative fit index (CFI) and the root mean square error of approximation (RMSEA), were examined. There is general agreement that CFI's of 0.90 or higher and RMSEA's of 0.08 or lower indicate an adequate model fit.^[32]

In an attempt to make our cross-lagged panel model as simple as possible without losing sight of important nuances, equivalent regression stability paths, within-time correlations, and cross paths (e.g., the paths from T1 perceived parental interaction behaviors to T2 adolescent GAD worry symptoms, and from T2 perceived parental interaction behaviors to T3 interaction) were constrained to be equal. It should be noted that, with regard to the within-time correlations, we only checked whether those at T2 and T3 could be constrained to be equal to one another. This was because T1 correlations reflect initial correlations, whereas within-time correlations in cross-lagged models reflect correlated relative change from T2 onwards.^[33] To test whether adding these constraints was justified, we tested whether a model with these constraints fitted just as well as a model in which these parameters were freely estimated. For this purpose, we used the multiple criteria advocated by Vandenberg and Lance.^[34] Specifically, we compared model fit using chi-square difference tests,^[35] and assessed whether differences in CFI exceeded 0.010^[36] and differences in RMSEA exceeded 0.015.^[37] If at least two out of three criteria favored a constrained model over an unconstrained model, we chose the more parsimonious (i.e., constrained) model.^[38] We used the same criteria to examine whether stability paths, within-time correlations, and cross-lagged paths of were similar for boys and girls. For this purpose, we also ran a multigroup model with boys and girls as groups.

RESULTS

The findings of the cross-lagged panel model demonstrated that a model without time-invariance constraints (i.e., an unconstrained model) had an adequate fit ($\chi^2(102) = 437.590$ ($P < .001$), CFI = 0.936; RMSEA = 0.060). Constraining stability paths to be time invariant (i.e., the same across the two time lags) was justified, as a nonsignificant chi-square difference test ($P = 1.00$) and differences between the CFIs ($\Delta\text{CFI} < 0.010$) and the RMSEAs ($\Delta\text{RMSEA} < 0.015$) of the unconstrained and constrained models revealed that the two models were not significantly different from one another. Similarly, adding time-invariance constraints regarding within-time correlations was justified, because a significant chi-square difference test ($P = .001$) did suggest differences between the constrained and unconstrained model, but the differences between the CFIs (< 0.010) and RMSEAs (< 0.015) suggested that the two models fit equally well. Finally, constraining the cross paths to be time-invariant was also justified, because a significant chi-square difference test ($P = .02$) did suggest differences between the constrained and unconstrained model, but the differences between the CFIs

TABLE 1. Relative stability path coefficients of adolescent gad and perceived parental interpersonal behaviors obtained in the final cross-lagged panel model

	Boys		Girls	
	T1-T2	T2-T3	T1-T2	T2-T3
Adolescent GAD	0.47	0.51	0.43	0.44
Over-Involvement	0.38	0.31	0.35	0.36
Psychological Control	0.30	0.29	0.29	0.25
Rejection	0.25	0.29	0.25	0.28
Trust	0.38	0.36	0.36	0.36
Alienation	0.30	0.33	0.28	0.30
Communication	0.42	0.38	0.41	0.37

Note: All paths were significant at $P < .001$.

(< 0.010) and RMSEAs (< 0.015) indicated that the two models fit equally well. A model including all the aforementioned time-invariance constraints (i.e., on stability paths, within-time correlations, and cross paths) also fit the data reasonably well ($\chi^2(142) = 524.315$ ($P < .001$), CFI = 0.927; RMSEA = 0.054).

In addition, we checked whether there were gender differences in the stability paths, within-time correlations, and cross paths. For this purpose, we used a multigroup model with boys and girls as groups. First, a model in which stability paths were constrained to be equal for boys and girls had a similar fit when compared to a model in which gender differences were allowed. That is, the chi-square difference test comparing these models was significant ($P = .004$), but the difference between CFIs was < 0.010 and the difference between RMSEAs was < 0.015 . In other words, the differences in CFI did not exceed 0.010^[36] and the differences in RMSEA did not exceed 0.015,^[37] indicating that the parsimonious constrained model had a fit that was just as good as the fit of the unconstrained model.^[38] Second, we showed that there were gender differences in within-time correlations, as a model with gender-equality constraints on these associations had a significantly worse fit with the data than a model without such constraints. Specifically, differences in RMSEA were still < 0.015 , but the chi-square difference test was significant ($P < .001$) and differences in the CFI were > 0.010 (i.e., $\Delta\text{CFI} = 0.018$). Finally, all criteria (a nonsignificant chi-square difference test, $P = .20$; differences in CFI < 0.010 , and differences in RMSEA < 0.015) indicated that a model in which cross paths were set equal for boys and girls fit just as well as a model in which such gender-equality constraints were not added. The final multigroup model, from which our parameter estimates will be derived, fit the data reasonably well ($\chi^2(303) = 687.052$ ($P < .001$), CFI = 0.929; RMSEA = 0.052).

In Table 1 the relative stability path coefficients are presented. In Table 2 the within-time correlations between all the variables are presented. In Fig. 2, the predictive paths between the interrelationship of adolescent GAD and perceived parental interaction behaviors are presented. Because the final model was a multigroup

TABLE 2. Correlations between adolescent GAD and perceived parental interpersonal behaviors

	Boys			Girls		
	T1	T2	T3	T1	T2	T3
GAD–Over–Involvement	0.08	0.03	0.03	0.12*	0.04	0.04
GAD–Psychological Control	0.19***	0.20***	0.27***	0.21**	0.15***	0.16***
GAD–Rejection	0.37***	0.30***	0.37***	0.33***	0.21***	0.22***
GAD–Trust	–0.10*	–0.12**	–0.15**	–0.19***	–0.04	–0.04
GAD–Alienation	0.36***	0.32***	0.41***	0.33***	0.24***	0.26***
GAD–Communication	0.00	–0.03	–0.04	–0.01	–0.01	0.01
Over–Involvement–Psychological Control	0.07	0.17***	0.18***	0.26***	0.36***	0.39***
Over–Involvement–Rejection	0.23***	0.19***	0.18***	0.23***	0.29***	0.30***
Over–Involvement–Trust	–0.13*	–0.14***	–0.13***	–0.21***	–0.22***	–0.25***
Over–Involvement–Alienation	0.11*	0.07	0.07	0.08	0.19***	0.20***
Over–Involvement–Communication	–0.09	–0.08*	–0.07*	–0.09	–0.16**	–0.16***
Psychological Control–Rejection	0.38***	0.29***	0.38***	0.39***	0.48***	0.52***
Psychological Control–Trust	–0.31***	–0.22***	–0.29***	–0.38***	–0.31***	–0.36***
Psychological Control–Alienation	0.32***	0.32***	0.44***	0.39***	0.39***	0.43***
Psychological Control–Communication	–0.15*	–0.03	–0.04	–0.11	–0.18***	–0.18***
Rejection–Trust	–0.60***	–0.37***	–0.44***	–0.52***	–0.46***	–0.52***
Rejection–Alienation	0.45***	0.40***	0.49***	0.46***	0.45***	0.49***
Rejection–Communication	–0.46***	–0.21***	–0.23***	–0.38***	–0.34***	–0.35***
Trust–Alienation	–0.14*	–0.21***	–0.26***	–0.31***	–0.42***	–0.48***
Trust–Communication	0.79***	0.59***	0.65***	0.68***	0.58***	0.62***
Alienation–Communication	0.00	–0.03	–0.04	–0.20***	–0.40***	–0.41***

* $P < .05$, ** $P < .01$, *** $P < .001$.

model with boys and girls as groups, the relative stability paths, correlations, and cross paths are presented for boys and girls separately in the tables and the figure.

As can be seen in Fig. 2, adolescent GAD predicted all six perceived parental behaviors, whereas none of the six perceived parental behaviors predicted adolescent GAD. Adolescent GAD worry was a positive predictor for perceived negative parental interaction behaviors of over-involvement, psychological control, rejection, and alienation (i.e., insecure attachment), whereas the perceived positive parental behaviors of trust (i.e., secure attachment) and communication were negatively predicted by adolescent GAD.

DISCUSSION

The findings of this 5-year prospective, longitudinal study indicate that GAD symptoms of both adolescent boys and girls affect perceived parental interpersonal behaviors (i.e., parental rejection, overcontrol, and attachment). In other words, it was revealed that a child effects model best described the data as opposed to the inverse relationship (i.e., a parent effects model) that has been found in many previous cross-sectional studies. These findings clearly demonstrates the need to explore how these relationships unfold over time longitudinally, as opposed to examining them at just one moment in time in a cross-sectional manner. Additionally, these findings also demonstrate the importance of using modern statistical analyses that first consider intercorrelations between the variables before determining if the variables are predictive of one another. In respect to the findings

of this study, these findings could be of important theoretic importance since these results would imply that the adolescent GAD symptoms are not so much instigated by perceived parental interpersonal behaviors, but instead are potentially an instigator of perceived parent disengagement.

ADOLESCENT GAD AND PERCEIVED PARENTAL INTERPERSONAL BEHAVIORS

As was previously noted, a major component of the GAD worry focuses on perceived interpersonal difficulties^[6] and much of the focus of this GAD worry centers on social-evaluative concerns in respect to difficulties with perceived interpersonal interaction behaviors,^[7] difficulties such as with their parents. Although much research has been conducted into adolescent GAD worry and adolescents’ perceptions of interpersonal behaviors that are involved in the adolescent’s social-evaluative concerns, specifically parental interpersonal behaviors, many of these studies have been cross-sectional. Additionally, many of these studies have only focused on how perceived parental behaviors can affect adolescent GAD symptoms as opposed to also considering possible child effects model (in which these perceptions of the parental behaviors are instead affected by the adolescent GAD). This focus of previous studies on a parent effects model has its roots in previous findings that perceived parental interpersonal behaviors can have reinforcing effects on the emotional state of the adolescent, or, in the case of attachment behaviors, can help to create the development of emotional problems such as anxiety.

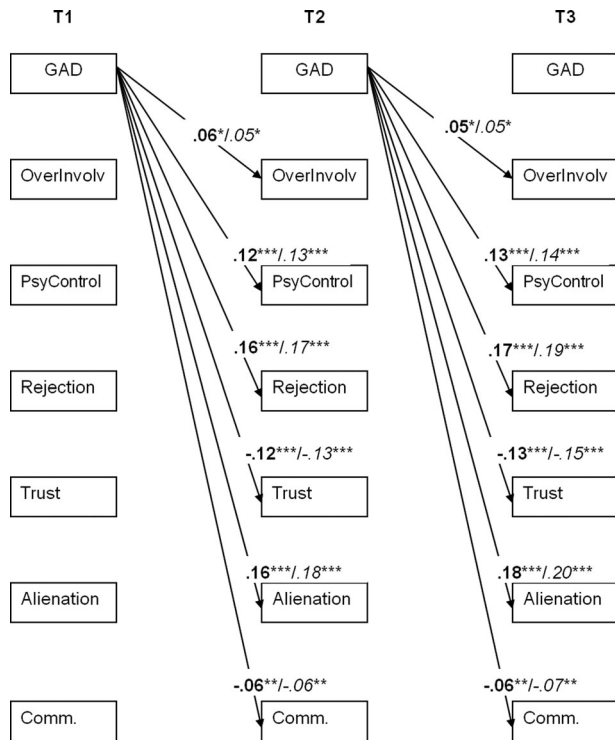


Figure 2. Significant cross-lagged regression paths between adolescent GAD symptoms for boys and girls and perceived parental interpersonal behaviors (i.e., Over-Involvement (OverInvolv), Psychological Control (PsyControl), Rejection, Trust, Alienation, and Communication (Comm.)) for boys and girls. Although the unstandardized estimates of boys and girls were constrained to be equal, standardized estimates (which are presented in the present figure) can still be slightly different for the boys and girls. The standardized estimates for the boys are given in bold type, and for the girls in italic type. * $P < .05$, ** $P < .01$, *** $P < .001$.

However, as noted in an influential article by Chorpita and Barlow,^[39] inherent biological tendencies of children and adolescents, such as the behavioral inhibition system, must be also considered in models of the development of anxiety in addition to parental interpersonal behaviors. In respect to adolescent GAD, a recent article by Hale^[40] demonstrated that GAD is more akin to a personality trait than an anxiety state in adolescents. Since it has been well-documented that personality traits and disorders have strong effects on the behaviors of significant others,^[41,42] it may well be the case that adolescent GAD is not so much influenced by the parental interpersonal behaviors as much as GAD influences these parental behaviors. And the influence adolescent GAD may have on these parental interpersonal behaviors is to create an environment in which the parents begin to disengage in their interactions with their adolescent. It should be said that this is a possible interpretation of the findings of this longitudinal study and would require a more in-depth examination of these factors, however with the accumulated knowledge of this study and the studies of Chorpita and Barlow^[39], and

Hale^[40] this interpretation can be tested in a future longitudinal investigation.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

It should be noted that this study only examined for both parents as a unit, as opposed to exploring parental interpersonal behaviors for the mother and father individually. It is possible that adolescents perceive and respond to mothers and fathers in differential patterns that would increase our knowledge of the role of perceived parental behaviors on adolescent GAD symptoms. Furthermore, the mothers' and fathers' reports of interpersonal difficulties with their children were not included in this study nor were observations of the parents interactions with the adolescent conducted, therefore it cannot be said for certain if the adolescent perception of parental behaviors exactly corresponded to the parents' actual interpersonal behaviors. However, several researchers have noted that a compelling reason to study adolescents' perceived parental interpersonal behaviors is the suggestion that the subjective experience of being "brought up" more strongly influences adolescent mental health than parents' own reports of their parenting behaviors.^[43,44]

Additionally, this study focused only on the adolescent's self-report of anxiety symptoms. This should not be confused with an actual DSM clinical diagnosis of an anxiety disorder. Although it is generally accepted that adolescents should be the main informants in the case of anxiety disorders,^[45] use of a structured clinical interview, such as the A-DISC,^[46] could have been used to help to determine the relationship between the self-report and an actual diagnosis.

Finally, while the adolescents reported on their GAD symptoms, no such reports of parental GAD symptoms were collected in this study. If such data had been collected it could have been explored within the models of this research if parental GAD symptoms had any moderating effects of the findings of this study. It is possible that parents with strong GAD symptoms may allow the parent to better understand the GAD symptoms the adolescent is experiencing, whereas parents with relatively little to no GAD symptoms may have more trouble understanding the adolescent's worry symptoms due to a lack of personal experience. Parents with this lack of experience may find the adolescent's GAD symptoms to be alien to them and therefore may be more inclined to disengage from interactions with the adolescent. While all these limitations should be taken into account in the interpretation of these findings, all these raised points can be tested in a future research design.

CONCLUSION

In summary, it appears that the adolescent GAD symptoms lead to negative parental interpersonal

behaviors rather than the inverse, and may conceivably create an environment in which the adolescents believe their parents may disengage in their interactions with them. These findings may be of interest to both clinicians and researchers alike as to the further exploration of the psychopathogenesis underlying the core aspect of adolescent GAD.

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