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ORIGINAL PAPER

Day-to-day Consistency in Positive Parent–Child Interactions and Youth Well-Being

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Abstract The frequency of positive parent–child interactions is associated with youth adjustment. Yet, little is known about daily parent–child interactions and how day-to-day consistency in positive parent–child interactions may be linked to youth well-being. Using a daily diary approach, this study added to this literature to investigate whether and how day-to-day consistency in positive parent–child interactions was linked to youth depressive symptoms, risky behavior, and physical health. Participants were youth whose parents were employed in the IT division of a Fortune 500 company ($N = 129$, youth's mean age = 13.39, 55 % female), who participated in an 8 day daily diary study. Analyses revealed that, controlling for cross-day mean levels of positive parent–child interactions, older (but not younger) adolescents who experienced more consistency in positive interactions with parents had fewer depressive and physical health symptoms (e.g., colds, flu). The discussion focuses on the utility of daily diary methods for assessing the correlates of consistency in parenting, possible processes underlying these associations, and intervention implications.

Keywords Parenting · Adolescence · Parent–child relationships · Parenting consistency · Depressive symptoms · Risky behavior · Physical health

Introduction

Youth who experience more positive interactions with parents are better adjusted. For example, parental warmth and support have been linked to lower levels of depressive symptoms, risky behavior, and physical health problems (Bornstein 2006; Greenberg and Lippold 2013; Steinberg and Morris 2001). Although most research focuses on the frequency, or *level* of positive parent–child interactions, theory and a small body of research highlight that *consistency* in parenting also has important implications for youth adjustment (Lippold et al. 2015, 2016). The vast majority of studies on consistency focus on parenting discipline (Laskey and Cartwright-Hatton 2009). Less is known about consistency in other aspects of parenting, such as positive parent–child interactions, during the adolescent period and their implications for youth adjustment.

Theories of parenting emphasize that consistency in parenting behaviors have important implications for youth adjustment (Bornstein 2006). From a social learning perspective, predictable responses to youth behavior may best promote learning, as youth are given consistent expectations about their environment (Bandura 1986). Further, when parents are consistent in their responses to their children, youth may gain a sense of self-efficacy and control over their environment, with positive implications for their adjustment (Bandura 1977). According to attachment theory, youth may form secure attachments to their parents

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when parental behavior is consistently responsive to their needs (Ainsworth et al. 1978). Youth's sense of self is influenced by their attachments with their primary caregivers, and youth whose parents are unpredictable may experience insecurity and self-doubt, with implications for both internalizing and externalizing problems (Luxton 2008; Yoshizumi et al. 2006). In addition, consistent, positive interactions with parents promote internalization of prosocial norms, which in turn, deter youth from engaging in risky behavior (Bahr et al. 2005; Catalano and Hawkins 1996; Greenberg and Lippold 2013). When parents are inconsistent in their positive parenting, in contrast, youth develop weaker parental bonds and fail to internalize prosocial norms, with negative implications for their risky behavior and mental health (Branje et al. 2010; Catalano and Hawkins 1996). At a more basic, physiological level, the lack of predictability inherent in parenting inconsistency may be a stressor for youth, one that contributes to outcomes such as depressive symptoms and physical health problems, such as headaches and stomach aches (Repetti et al. 2011).

Indeed, consistency in parenting—primarily consistency in discipline—has been linked to more positive youth outcomes (Halgunseth et al. 2013). A few studies have examined consistency in parental affection and shown that consistency in affection is linked to lower levels of youth depression (Brand et al. 1990; Luxton 2008; Yoshizumi et al. 2006). Two recent studies also investigated consistency in parental knowledge of youth activities and documented its links to lower youth substance use, delinquency, internalizing problems and physical health problems (Lippold et al. 2015, 2016).

Despite its theoretical importance, studies have been limited in their ability to measure parenting consistency. Many studies rely on youth's global assessments of parenting, requiring youth to recall and rate the consistency of their experiences with their parents usually over extended periods of time. For example, in assessing consistent discipline, youth may be asked to rate how often their parents used the same consequence for a behavior over the past month (Halgunseth et al. 2013). Studies assessing consistency in parental affection have also used such methods: Luxton (2008) asked college students to recall how consistent their parents had been along a number of parenting dimensions, without specifying a specific time frame. Such global reports involve memory demands and mental arithmetic to calculate the extent of parents' consistency—which may change across time.

Three recent studies operationalized parenting consistency by assessing within-person changes in parenting—that is, how an individual's report of parenting fluctuates over time (Lippold et al. 2015, 2016; Marceau et al. 2014). For example, Lippold et al. (2015) operationalized consistency in parental knowledge by assessing how much youth reports of parental knowledge differed from day to day across an eight day period. That is, parents high in consistency had similar reports of knowledge from day to day, whereas parents low in consistency fluctuated in their knowledge from day to day. Recent studies measuring parenting consistency in this way have found consistency in parental knowledge of youth activities to be linked to fewer depressive symptoms and physical health problems as well as less substance use by youth (Lippold et al. 2015, 2016). Importantly, these studies have found consistency in parenting to be linked to youth outcomes even when controlling for cross-day mean levels of parenting behaviors, underscoring that consistency is an important element of parenting.

The linkages between consistency in positive interactions and youth outcomes may differ based on youth characteristics, such as gender and age. Gender socialization fosters interpersonal orientations in girls more so than boys (Maccoby 1992; McHale et al. 2003). Thus, girls may be more sensitive to interpersonal stressors and react more negatively to the lack of predictability in parents' display of warmth and support (Hankin and Abramson 2001). Indeed, prior studies have found less consistency in parental knowledge to be associated with higher levels of youth risky behavior for girls but not boys (Lippold et al. 2015, 2016). As such, the linkages between consistency in positive parent–child interactions and youth outcomes may also be stronger for girls than boys.

In addition, the experience of parenting inconsistency may change across adolescence as parents and youth transition from hierarchical to more egalitarian relationships (Laursen and Collins 2009). When youth transition into adolescence, parent–child relationships are often restructured, and as such, there may be many ups and downs in their relationships as parents and youth transition to new roles. Indeed, some studies find that there is extensive intra-individual variability in relationships during the adolescent transition (Granic et al. 2003). By late adolescence, however, parent–child relationships typically stabilize, and thus there should be fewer ups and downs in relationships as children become older. Thus, inconsistent parent–child interactions in late adolescence may indicate difficulty transitioning to new relationship patterns that include greater autonomy for youth (Wray-Lake et al. 2010). Further, rates of risky behavior and depression increase during adolescence (Cole et al. 2002); this increased prevalence and variability in youth risky behavior may make associations between parenting and youth outcomes more apparent in later as compared to earlier adolescence. It is also possible that the cumulative negative effects of parenting inconsistency from earlier time periods may become more pronounced across adolescence, given the heightened risk

of this time period. Indeed, prior studies have found that consistency in other aspects of parenting, such as parental knowledge, is linked to well-being for older, but not younger, adolescents (Lippold et al. 2015). Such findings led us to expect that consistency in positive parent–child interactions would be more strongly linked to youth adjustment in late as compared to early adolescence.

In this study, we used daily diary data to study day-to-day consistency in adolescents' perceptions of positive parent-child interactions and its associations with youth adjustment. In interviews conducted on eight consecutive evenings, youth reported on their positive interactions with a parent *during the day of the call*, thereby defining a limited time frame in which youth were asked to recall information. Similar to other studies, we calculated parenting consistency directly from those reports rather than relying on youth to estimate the extent of their parents' consistency (Lippold et al. 2015, 2016; Marceau et al. 2014; Ram et al. 2011). Specifically, we operationalized parenting consistency as the within-person standard deviation of positive parent–child interactions across eight days reverse-coding these scores such that higher scores indicated greater day-to-day consistency in parenting (see Lippold et al. 2015, 2016; Ram et al. 2011; Ram and Gerstorf, 2009). As noted, asking youth to report on interactions on a daily basis and calculating within-person variability directly reduces biases from memory demands and mental arithmetic. Our first goal was to test whether, controlling for average level of positive interactions, day-to-day consistency in positive interactions with parents was associated with youth's well-being. We hypothesized that, beyond youth's cross-day average levels of positive interactions, greater consistency in positive interactions would be associated with fewer youth depressive symptoms, risky behaviors, and physical health problems. Our second goal was to investigate whether youth age and/or gender moderated the linkages between consistency in positive interactions and youth well-being. We expected the linkages between parenting consistency and youth outcomes would be stronger for girls and older youth.

Method

Participants

We used baseline data from a larger study of employees in the information technology division of a Fortune 500 company who participated in a field trial of a workplace intervention designed to reduce work-family conflict and improve the health of employees and their families (Bray et al. 2013; King et al. 2012). The subsample for the current analyses included 129 children of these employees who were between the ages of 9–17 (55 % female; mean age = 13.4, $SD = 2.40$) and who lived with their employee parent at least four days a week. Employees and their children completed in-home interviews and participated in a series of eight nightly telephone surveys. This study used data from youth for whom we had home interview data as well as at least three days of diary data (97 % of sample). Most employee parents were college graduates (78 %) and were married or cohabitating (87 %), with annual incomes averaging between $110,000 and $119,999. The majority of youth were White (59 %), 3 % were African American, 15 % were Hispanic, 18 % were Asian or Asian Indian and 4 % were another race.

Procedures

We used a combination of data sources for this study including in-home and daily diary telephone interviews. In home interviews, parents provided consent and youth provided assent for youth's participation in the home and diary interviews. Youth and parents were then interviewed separately about their health, adjustment, and family relationships. Then, in eight, consecutive, nightly phone calls, parents and youth reported on their experiences during the day of the call. During the first call, they were asked to report on the previous 24 hour period, and during subsequent calls, they were asked to report on the period of time since the last call. On average, the phone calls lasted approximately 15 min. The data collection centers' Institutional Review Boards approved the procedures. Parents and children each received $75 for participation in the daily diary portion of the study.

Measures

Data on youth risky behavior and depressive symptoms were collected in adolescent home interviews and reports of physical health symptoms and positive parent–child interactions were collected in the adolescent phone diary interviews. We also used youth's daily diary data to calculate the mean level and consistency of positive parent–child interactions.

Daily Diary Measures

Positive parent–child interactions were assessed in the phone interviews using a six-item scale adapted from the Parent–Child Affective Quality questionnaire (Conger 1989). An example is, "How often did your parent say something nice about you?" Youth used a three-point rating scale (1 = *not at all*, 2 = *once*, 3 = *more than once*) to describe their parents' behavior from the time of the previous call until the time of the current call. Cronbach's alpha

Table 1 Means, standard deviations, and Pearson correlations between study variables

		Mean	SD	1	2	3	4	5	8	9
1	Positive interactions—mean	2.48	0.46							
2	Positive interactions—consistency	0.76	0.16	0.59***						
3	Youth risky behavior	1.38	0.39	−0.30***	−0.18*					
4	Youth depressive symptoms	32.38	5.58	−0.42***	−0.36***	0.37***				
5	Youth physical symptoms	0.61	0.57	−0.35***	−0.24***	0.39***	0.35**			
8	Youth age	11.39	2.35	−0.26**	−0.25**	0.34***	0.16^{t}	0.05		
9	Youth gender	–	–	0.15^{t}	0.08	−0.00	−0.21*	0.17^{t}	0.16^{t}	

$^{t}p < 0.10$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$. Gender is coded as 0 = *male,* 1 = *female*

for this scale ranged from .80 to .89 across the eight days. We used these reports to calculate two scores for each study participant: the mean level of positive interactions across the eight days of the study and day-to-day consistency in positive interactions (i.e., the within-person standard deviation across the eight days).

Youth reported on their daily *physical health symptoms* during the telephone interviews using a six item measure adapted from Larsen and Kasimatis (1991). For each item (e.g., headache, cold/ flu), youth reported whether they had or had not experienced that symptom (0 = *no*; 1 = *yes*) that day, and responses were summed to indicate daily number of physical health symptoms and then averaged across the eight days such that high scores indicated more daily health symptoms.

Survey Measures

Youth rated their *depressive symptoms* using the 26 items from the Children's Depression Inventory (CDI; Kovacs 2001). Youth chose from among three statements, the one that best described how they felt in the past two weeks, e.g., "I am sad once in a while," "I am sad many times," "I am sad all the time." Items were rated on a three-point scale (1 = *no symptoms* to 3 = *high symptoms*) and summed. Cronbach's alpha was 0.85.

Youth reported on their *risky behavior* during the past six months in the home interviews using a 14-item scale (Dishion et al. 1991; e.g., "In the past 6 months how many times have you stolen something?"). Risky behaviors were rated on a four-point scale (1 = *never* to 4 = *ten or more times*) and averaged. Cronbach's alpha was 0.84.

Moderators and Control Variables

Moderators and control variables included youth gender (0 = *male,* 1 = *female*) and youth age (grand-mean centered at 13.4 years of age).

Data Analyses

Analysis proceeded through three steps. First, scores for the mean level of positive interactions and consistency in positive interactions were derived from the daily diary data. Mean positive interaction scores were calculated by averaging scores across the eight diary days. Consistency scores were calculated as the within-person standard deviation of positive interaction scores across the eight days (Lippold et al. 2015; Ram et al. 2011), with higher scores indicating greater variability in positive interactions from day to day. To aid interpretation, the within-person standard deviation was subtracted from a constant of 1, so that higher scores indicated less variability or more consistency in positive interactions across the eight days of the study.

In a second step, the derived score for the consistency of positive parent–child interactions was entered as a predictor of youth outcomes in an OLS regression model. Models also included the derived score for the cross-day mean of positive parent–child interactions as a control variable, as well as youth gender and age. All predictors were centered for our analysis. Separate models were run for each outcome variable: youth risky behavior, depressive symptoms, and physical health symptoms.

In a third step, we tested if youth gender or age moderated the linkages between consistency in positive parent–child interactions and youth outcomes. To assess moderation, an interaction term was added to the OLS regression models (e.g., youth gender × parenting consistency). Moderation by age and by gender were tested separately for each outcome variable.

Results

Means and correlations for study variables can be found in Table 1. Positive parent–child interactions had an intraclass correlation (ICC) of 0.71, suggesting that there was a substantial amount of within-individual variance (29 %), but

Table 2 Consistency in positive parent–child interactions and youth well-being: moderation by youth age

	Risky behavior				Depressive symptoms				Physical health symptoms			
	B	β	SE	p value	B	β	SE	p value	Est	β	SE	p value
Mean of positive interactions	−0.22	−0.26	0.09	0.02	−3.79	−0.31	1.31	0.01	−0.50	−0.41	0.13	0.00
Consistency of positive interactions	−0.33	0.14	0.27	0.20	−4.42	−0.11	4.17	0.29	−0.04	−0.01	0.36	0.91
Youth age	−0.05	0.34	0.13	0.00	0.27	0.12	0.21	0.18	−0.01	−0.01	0.02	0.87
Youth gender	−0.01	−0.01	0.07	0.87	−1.64	−0.15	0.95	0.09	0.27	0.24	0.09	0.00
Mean positive interactions × youth age	0.01	0.03	0.04	0.77	0.67	0.13	0.61	0.27	0.11	0.20	0.06	0.06
Inconsistency of positive interactions × youth age	−0.11	−0.09	0.15	0.47	−3.84	−0.22	2.08	0.06	−0.49	−0.27	0.19	0.01
Model R^2		0.18				0.21				0.17		

Note: Consistency of positive interactions is coded such that higher scores indicate more consistency in positive parent–child interactions

that most variance occurred between individuals. Consistency in positive interactions and the mean of positive interactions were highly correlated ($r = 0.59$) suggesting that parents with higher levels of positive interactions also were more consistent across the eight days and that care should be taken to assess multicollinearity in our models (Hair et al. 1995; Lippold et al. 2015). In the face of this high correlation, however, detecting unique effects of consistency after controlling for level of positive interactions provides strong evidence of the importance of this parenting dynamic. Consistency was significantly correlated with all three indicators of youth adjustment. Youth age was negatively correlated with both the mean of and consistency in positive interactions, suggesting that such interactions decrease and become less consistent across adolescence.

Similar to other work on consistency, given the high correlation between the mean and consistency of positive parent-child interactions, additional analyses were run to investigate the potential role of multicollinearity (Lippold et al. 2015, 2016; Marceau et al. 2014). The variance inflation factor (VIF), which assesses how much the standard error of model estimates is inflated due to multicollinearity, ranged from 1.54 to 1.67, well below the recommended cut off value of 10 (Hair et al. 1995). Thus our analysis suggested that multicollineary would not bias our estimates.

Analyses revealed no significant main effects of parental consistency on youth depressive symptoms ($B = -5.64$, $\beta = -0.14$, $SE = 4.13$, $p = 0.19$), risky behaviors ($B = 0.29$, $\beta = 0.12$, $SE = 0.25$, $p = 0.60$), or physical health symptoms ($B = -0.09$, $\beta = -0.02$, $SE = 0.37$, $p = 0.58$). Tests of the hypothesized moderation effects were significant, however. First, a significant parenting consistency by age interaction emerged for physical health symptoms ($p = 0.01$) and a marginal effect ($p = 0.06$) emerged for depressive symptoms (Table 2). The change in model R-squared with the addition of the consistency × age interaction term was significant for physical symptoms ($\Delta R^2 = 0.04$, $p = 0.01$) and a trend emerged for depressive symptoms ($\Delta R^2 = 0.02$, $p = 0.07$), but was not significant for risky behavior ($\Delta R^2 = 0.001$, $p = 0.29$). Follow-up tests of the simple slopes revealed that consistency in positive parent–child interactions was associated with fewer physical health symptoms for older ($B = -1.19$, $SE = 0.54$, $p = 0.03$) but not younger adolescents ($B = 1.11$, $SE = 0.64$, $p = 0.09$ Fig. 1). As hypothesized, follow-up tests of the simple slopes (using ±1 *SD*, not shown) revealed that more consistency in positive parent–child interactions was linked to fewer depressive symptoms for older ($B = -13.45$, $SE = 5.89$, $p = 0.02$) but not for younger adolescents ($B = 4.61$, $SE = 6.95$, $p = 0.51$). Contrary to our hypothesis, there was no evidence that youth gender moderated these associations.

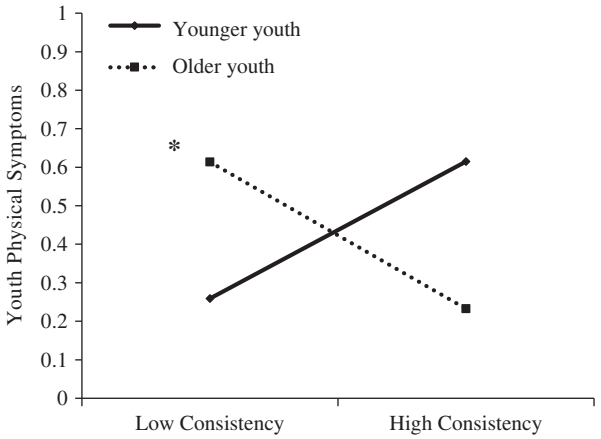

Fig. 1 Youth age moderates the linkages between consistency in positive parent–child interactions and youth physical symptoms. These linkages were significant for older but not younger adolescents. An *asterisks* indicates a significant association in tests of the simple slopes

Discussion

Building on prior work on the importance of consistency in parenting for youth adjustment, this study explored the

implications of day-to-day consistency in positive parent–child interactions for youth depressive symptoms, risky behavior, and physical health (Ainsworth et al. 1978; Bandura 1986). Our results showed that, even after controlling for the cross-day average level of parental positivity, consistency in positive parent–child interactions was associated with fewer physical health symptoms and at trend level, fewer depressive symptoms for older—but not younger—adolescents. These findings support prior research showing that inconsistency in parental affection was linked to youth depressive symptoms (Luxton 2008; Yoshizumi et al. 2006). Our study extends this work by focusing on daily, rather than global reports of parenting, by focusing on a broader range of youth outcomes, and by testing for age differences in the implications of consistency.

Together, our findings suggest that, in addition to cross-day mean levels of positive parent–child interactions, consistency in positive interactions also may have important implications for youth adjustment. Assessing consistency in positive interactions and exploring its implications sheds new light on the influence of positive parent–child interactions on youth development and suggests new directions for family-based interventions (Luxton 2008): Consistency in parenting may be an important protective factor for youth depression and physical health symptoms, and thus, may be an important factor to promote in our family-based interventions.

There are several possible explanations as to why consistency in positive parent–child interactions had linkages to well-being for older, but not younger, adolescents. Early adolescence is marked by increases in the variability of parent–child interactions, as well as increases in the amount of negativity and conflict (Laursen and Collins 2009; Granic et al. 2003). In later adolescence, parent–child relationships typically have transitioned in ways that allow youth greater independence and autonomy—which are closely linked to youth perceptions of parental emotional support. Youth who experience threats to their autonomy—including inconsistency in parental support for their independence, may also experience more adjustment problems because parenting inconsistency may reflect an inability of parents and youth to successfully renegotiate their relationship (McElhaney et al. 2009). That is, ups and downs in daily positive parent–child interactions in later adolescence may mark unresolved tensions regarding the transitions of adolescence and a failure to establish consistent healthful levels of youth autonomy. In turn, lack of autonomy has been linked to lower self-esteem and increased risk of depressive symptoms in adolescence (Allen et al. 2006). More studies are needed that measure youth autonomy to understand how consistency in parenting is linked to youth experiences of autonomy support. Adolescence is also a critical time for the development of identity and self-esteem, and the rates of depression increase between early and late adolescence (Merikangas et al. 2010). Inconsistency in positive interactions with parents may affect youth's self-perceptions, leading to insecurity and self-doubt, and low self-efficacy (Bandura 1977; Luxton 2008). Parenting inconsistency may have stronger linkages to depression given the increased risk of internalizing problems of this particular time period. For reasons described above, older adolescents may experience inconsistency as more stressful than younger adolescents. And, stress from inconsistent and unpredictable parent–child relationships may impact youth's immune systems, resulting in more physical health symptoms (Repetti et al. 2011). Further, in our data older youth have more inconsistency in parenting and depressive symptoms. Larger individual differences in inconsistency and depression may make the associations more readily detectable among older, rather than younger, youth. In short, our results suggest that consistency in positive interactions may be an important aspect of parent–child relationships, with linkages to the mental and physical health of older adolescents, in particular.

Contrary to our hypothesis, consistency in positive interactions was not associated with youth risky behavior though mean level of positive interactions was linked to risky behavior, consistent with prior research (Catalano and Hawkins 1996). Thus overall positivity rather than consistency may play the most important role in whether youth internalize their parents' prosocial norms. Further, one of the strongest predictors of risky behavior is the selection and maintenance of friendships with antisocial peers (Murray and Farrington 2010), and mean level rather than consistency of positive-parent child interactions may be more likely to influence these peer processes. Future studies are needed that investigate how consistency in parenting affects peer relationships. Another possible reason for differential effects across our outcomes is the difference in time scales of these measures. Youth reported on their risky behavior over the past 6 months but on depressive symptoms over the past 2 weeks and physical symptoms over the day of each call. Thus precision in measurement may have been a factor in this pattern of results.

We also found no evidence of gender moderation in the links between consistency and youth adjustment. Our lack of findings regarding gender moderation was somewhat surprising, given that prior research has found gender differences in consistency of parental knowledge and youth risky behavior, with stronger linkages for girls than boys (Lippold et al. 2015, 2016). It is possible that differences in the linkages of parenting consistency by gender vary by the type of parenting behavior under investigation. It is also possible that these linkages may vary based on the gender composition of the parent–child dyad such as same gender

vs. cross-gender. We did not have the statistical power necessary to test specific parent–child gender constellations in this study. More studies across a broad range of parenting dimensions and that include sufficient sample sizes to test for differences by gender constellation in the parent–child dyad may shed more light on gender differences in the linkages between parenting consistency and youth outcomes.

Our findings should be considered in light of the strengths and limitations of this study. Strengths of the study include our reliance on daily diary data, which minimized recall bias. Further, instead of asking youth to rate global perceptions of parenting consistency, we assessed consistency directly, using statistical methods to capture within-person variability in parenting (Ram et al. 2011). Further, our sample included youth across a broad range of ages, allowing us to test for age differences in the linkages between parenting consistency and youth outcomes. In the face of these strengths, limitations of our study suggest directions for future research. First, because we used cross-sectional data, the direction of effects underlying the associations between parenting and youth outcomes cannot be discerned. It is possible, for example, that youth who are experiencing depressive and physical health symptoms are more irritable or withdrawn, leading to more inconsistency in positive interactions with parents. Most likely, these processes reflect transactional dynamics (Pettit and Arsiwalla 2008). Longitudinal studies are needed to illuminate the mechanisms underlying these patterns and potential reciprocal effects between inconsistency and youth outcomes. Our sample was also limited in its focus on youth with generally well-educated parents who were employed in one company and require replication in more diverse groups of youth and families. In addition, the results were based on youth reports of positive parent child relationships and their well-being. Although several studies suggest that it may be crucial to capture youth perceptions of parenting, common method variance may underlie some of these associations (Laursen and Collins 2009) and future research should incorporate objective data on youth adjustment. Finally, this study used a single time scale for assessing consistency, that is, from day to day. Shorter-term and longer-term fluctuations in positive parent–child interactions also are likely and worthy of examination. Studies that use more intensive measurement designs such as ecological momentary assessment or state-space grids could capture consistency on shorter time scales to further illuminate how consistency in positive parenting has implications for youth (Granic et al. 2003; Ram and Diehl 2015). Gathering data across more time points may improve measurement of parenting consistency and further differentiate it from mean levels of parenting.

Despite these limitations, this study adds to the literature on the correlates of positive parenting and suggest several intervention implications. First, as suggested, to maximize their effectiveness, parent education programs should highlight the role of consistency along with level of positive parent–child interactions, especially in the case of older adolescents. Programs may need to teach parents explicit strategies in how to maintain a constant level of positive interactions with their children from day to day. Such consistency may require techniques such as mindfulness or stress-management that aid parents in maintaining their equilibrium even on days that they find more challenging or stressful. Parents also may need to be encouraged and to stay connected with their children even as youth spend increasing amounts of time away from home.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethics and Human Subjects Protection All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

References

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. New York, NY: Psychology Press.

Allen, J. P., Insabella, G., Porter, M. R., Smith, F. D., Land, D., & Phillips, N. (2006). A social-interactional model of the development of depressive symptoms in adolescence. *Journal of Consulting and Clinical Psychology*, *74*(1), 55–65. doi:10.1037/0022-006X.74.1.55.

Bahr, S. J., Hoffmann, J. P., & Yang, X. (2005). Parental and peer influences on the risk of adolescent drug use. *Journal of Primary Prevention*, *26*(6), 529–551. doi:10.1007/s10935-005-0014-8.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bornstein, M. (2006). Parenting science and practice. In N. Eisenberg, W. Damon & R. Lerner (Eds.), *Handbook of child psychology: (6th edition, Vol. 3)*, Hoboken, NJ: Wiley.

Brand, H. J., Crous, B. H., & Hanekom, J. D. (1990). Perceived parental inconsistency as a factor in the emotional development of behaviour-disordered children. *Psychological Reports*, *66*(2), 620–622. doi:10.2466/PR0.66.2.620-622.

Branje, S. J., Hale, III, W. W., Frijns, T., & Meeus, W. H. (2010). Longitudinal associations between perceived parent–child relationship quality and depressive symptoms in adolescence. *Journal of Abnormal Child Psychology*, *38*(6), 751–763. doi:10.1007/s10802-010-9401-6.

Bray, J. W., Kelly, E. L., Hammer, L. B., Almeida, D. M., Dearing, J.W., King, R. B., & Buxton, O. M. (2013). *An integrative, multilevel, and transdisciplinary research approach to challenges of work, family, and health*. Research Triangle Park, NC: RTI Press. RTI Press publication No. MR-0024-1303

Catalano, R., & Hawkins, D. (1996). The social development model: A theory of antisocial behavior. In J. D. Hawkins (Ed.), *Delinquency and crime: Current theories* (pp. 149–197). Cambridge: Cambridge University Press.

Cole, D. A., Tram, J. M., Martin, J. M., Hoffman, K. B., Ruiz, M. D., Jacquez, F. M., & Maschman, T. L. (2002). Individual differences in the emergence of depressive symptoms in children and adolescents: A longitudinal investigation of parent and child reports. *Journal of Abnormal Psychology*, *111*(1), 156–165. doi:10.1037/0021-843X.111.1.156.

Conger, R. D. (1989). *Iowa Youth and Families Project, Wave A*. Report prepared for Iowa State University, Ames, IA: Institute for Social and Behavioral Research.

Dishion, T. J., Patterson, G. R., Stoolmiller, M., & Skinner, M. L. (1991). Family, school, and behavioral antecedents to early adolescent involvement with antisocial peers. *Developmental Psychology*, *27*, 172–180. doi:10.1037/0012-1649.27.1.172.

Granic, I., Hollenstein, T., Dishion, T. J., & Patterson, G. R. (2003). Longitudinal analysis of flexibility and reorganization in early adolescence: A dynamic systems study of family interactions. *Developmental Psychology*, *39*(3), 606–617. doi:10.1037/0012-1649.39.3.606.

Greenberg, M. T., & Lippold, M. A. (2013). Promoting health among multi-risk youth: Innovative approaches. *The Annual Review of Public Health*, *34*, 253–270. doi:10.1146/annurev-publhealth-031811-124619.

Hair, Jr, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). *Multivariate data analysis*. 3rd ed. New York: Macmillan.

Halgunseth, L. C., Perkins, D. F., Lippold, M. A., & Nix, R. L. (2013). Delinquent-oriented attitudes mediate the relation between parental inconsistent discipline and early adolescent behavior. *Journal of Family Psychology*, *27*(2), 293–302. doi:10.1037/a0031962.

Hankin, B. L., & Abramson, L. Y. (2001). Development of gender differences in depression: An elaborated cognitive vulnerability–transactional stress theory. *Psychological Bulletin*, *127*(6), 773–796. doi:10.1037/0033-2909.127.6.773.

King, R. B., Karuntzos, G. T., Casper, L. M., Moen, P., Davis, K. D., Berkman, L., Durham, M., & Kossek, E. E. (2012). Work-family balance issues and work-leave policies. In R. J. Gatchel & I. Z. Schultz (Eds.), *Handbook of occupational health and wellness* (pp. 323–339). New York, NY: Springer.

Kovacs, M. (2001). *Children's depression inventory manual*. North Tonawanda, NY: Multi-Health Systems.

Larsen, R. J., & Kasimatis, M. (1991). Day-to-day physical symptoms: Individual differences in the occurrence, duration, and emotional concomitants of minor daily illnesses. *Journal of Personality*, *59*, 387–423. doi:10.1111/j.1467-6494.1991.tb00254.x.

Laskey, B. J., & Cartwright-Hatton, S. (2009). Parental discipline behaviours and beliefs about their child: Associations with child internalizing and mediation relationships. *Child Care, Health & Development 35*(5), 717–727. doi:10.1111/j.1365-2214.2009.00977.x.

Laursen, B., & Collins, W. A. (2009). Parent–child relationships during adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 3–42). Hoboken, NJ: Wiley. doi:10.1002/9780470479193.adlpsy002002.

Lippold, M. A., Fosco, G., Ram, N., & Feinberg, M. E. (2016). Knowledge lability: Within-person changes in parental knowledge and their association with adolescent problem behaviors. *Prevention Science*, *17*, 274–283. doi:10.1007/s11121-015-0604-5.

Lippold, M. A., McHale, S. M., Davis, K. D., & Kossek, E. (2015). Day-to-day inconsistency in parental knowledge: Linkages to youth health and parental stress. *The Journal of Adolescent Health*, *56*(3), 293–299. doi:10.1016/j.jadohealth.2014.11.017.

Luxton, D. (2008). The effects of inconsistent parenting on the development of uncertain self-esteem and depression vulnerability. *Dissertation Abstracts International*, *69*(4B), 6231.

Maccoby, E. E. (1992). The role of parents in the socialization of children: An historical overview. *Developmental Psychology*, *28*(6), 1006–1017. doi:10.1037/0012-1649.28.6.1006.

Marceau, K., Ram, N., & Susman, E. J. (2014). Development and lability in the parent–child relationship during adolescence: Associations with pubertal timing and tempo. *Journal of Research on Adolescence*, *25*(3), 474–489. doi:10.1111/jora.12139.

McElhaney, K.B., Allen, J.P., Claire, S.J., & Hare, A. L. (2009). Attachment and Autonomy During Adolescence. In R. M. Lerner and L. D. Steinberg (Eds.), *Handbook of Adolescent Psychology* (pp. 358–403). Hoboken, NJ: John Wiley & Sons.

McHale, S. M., Crouter, A. C., & Whiteman, S. D. (2003). The family contexts of gender development in childhood and adolescence. *Social Development*, *12*(1), 125–148. doi:10.1111/1467-9507.00225.

Merikangas, K. R., He, J. P., Burstein, M., Swanson, S. A., Avenevoli, S., & Cui, L., et al. (2010). Lifetime prevalence of mental disorders in US adolescents: Results from the National Comorbidity Survey Replication–Adolescent Supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry*, *49*(10), 980–989. doi:10.1016/j.jaac.2010.05.017.

Murray, J., & Farrington, D. P. (2010). Risk factors for conduct disorder and delinquency: key findings from longitudinal studies. *The Canadian Journal of Psychiatry*, *55*(10), 633–642.

Pettit, G. S., & Arsiwalla, D. D. (2008). Commentary on special section on "bidirectional parent–child relationships": The continuing evolution of dynamic, transactional models of parenting and youth behavior problems. *Journal of Abnormal Child Psychology*, *36*(5), 711–718. doi:10.1007/s10802-008-9242-8.

Ram, N., & Diehl, M. (2015). Multiple time-scale design and analysis: Pushing towards real-timemodeling of complex developmental processes. In M. Diehl, K. Hooker, & M. Sliwinski (Eds.), *Handbook of intraindividual variability across the lifespan* (pp. 308–323). New York: Routledge.

Ram, N., & Gerstorf, D. (2009). Time-structured and net intraindividual variability: Tools for examining the development of dynamic characteristics and processes. *Psychology and Aging*, *24*, 778–791. doi:10.1037/a0017915.

Ram, N., Gerstorf, D., Lindenberger, U., & Smith, J. (2011). Developmental change and intraindividual variability: Relating cognitive aging to cognitive plasticity, cardiovascular lability, and emotional diversity. *Psychology and Aging*, *26*(2), 363–371. doi:10.1037/a0021500.

Repetti, R. L., Robles, T. F., & Reynolds, B. (2011). Allostatic processes in the family. *Development and Psychopathology*, *23*(3), 921–938. doi:10.1017/S095457941100040X.

Steinberg, L., & Morris, A. S. (2001). Adolescent development. *Journal of Cognitive Education and Psychology*, *2*(1), 55–87. doi:10.1891/19458950178738344.

Wray-Lake, L., Crouter, A. C., & McHale, S. M. (2010). Developmental patterns in decision-making autonomy across middle childhood and adolescence: European American parents' perspectives. *Child Development*, *81*(2), 636–651. doi:10.1111/j.1467-8624.2009.01420.x.

Yoshizumi, T., Murase, S., Murakami, T., & Takai, J. (2006). Reliability and validity of the parenting scale of inconsistency. *Psychological Reports*, *99*(1), 74–84. doi:10.2466/PR0.99.5.74-84.