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Day-to-Day Inconsistency in Parent Knowledge: Links with Youth Health and Parents' Stress

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Abstract

Purpose—Considerable evidence documents the linkages between higher levels of parental knowledge about youth activities and positive youth outcomes. This study investigated how day-to-day inconsistency in parental knowledge of youth activities was linked to youth behavioral, psychological, and physical health as well as parents' stress.

Methods—Participants were employees in the Information Technology division of a Fortune 500 company and their children ($N = 129$, Mean age youth = 13.39 years, 55% female). Data were collected from parents and youth via separate workplace and in-home surveys as well as telephone diary surveys on 8 consecutive evenings. We assessed day-to-day inconsistency in parental knowledge across these eight calls.

Results—Parents differed in their knowledge from day to day almost as much as their average knowledge scores differed from those of other parents. Controlling for mean levels of knowledge, youth whose parents exhibited more knowledge inconsistency reported more physical health symptoms (e.g., colds, flu). Knowledge inconsistency was also associated with more risky behavior for girls but greater psychological well-being for older adolescents. Parents who reported more stressors also had higher knowledge inconsistency.

Conclusions—Assessing only average levels of parental knowledge does not fully capture how this parenting dimension is associated with youth health. Consistent knowledge may promote youth physical health and less risky behavior for girls. Yet knowledge inconsistency also may reflect normative increases in autonomy as it was positively associated with psychological well-

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being for older adolescents. Given the linkages between parental stress and knowledge inconsistency, parent interventions should include stress-management components.

Keywords

parental knowledge; daily diary; physical health; risky behavior; psychological well-being

High levels of parental knowledge of their children's activities have been associated with lower levels of youth risky behavior, substance use, and depression.^{1,2} Parental knowledge may emerge from parents' family management techniques, including parental solicitation of information, behavioral control, and supervision^{3,4} as well as youths' decisions about which information to disclose.⁵ Indeed, parents' knowledge is an important mediator that links parents' management strategies and child disclosure with youth well-being.⁴ In this study, we examined day-to-day fluctuations⁶ in parental knowledge, drawing from theory and research on the role of consistent parenting for youth well-being.⁷ We also moved beyond the field's current focus on youth psychological and behavioral health to study youth physical health correlates of parental knowledge. Our first goal was to test whether, beyond parents' average level of knowledge, inconsistency in knowledge, as calculated from youth's daily reports of parental knowledge across multiple days, accounted for unique variance in youths' behavioral, psychological, and physical health, and whether these linkages were moderated by youth age or gender. Given that little is known about the conditions that give rise to parental knowledge, we also tested the links between parents' stress and the inconsistency of their knowledge.

Inconsistency in Parental Knowledge and Youth Behavioral, Psychological, and Physical Health

To date, investigators have examined parents' average *levels* of knowledge and the extent to which differences between parents' average knowledge explain variations in youth well-being.^{1,2} Theories also emphasize that *consistency* in parenting also has implications for youth adjustment, because it provides youth with clear and predictable standards, thereby promoting their autonomy to behave and make choices within established limits.^{7, 8} Under conditions of high inconsistency, parents' level of knowledge increases and decreases from one day to the next, creating unpredictability. In this study, we operationalized inconsistency as the within-person standard deviation of knowledge across eight days, with higher scores indicating greater inconsistency in knowledge from day to day.⁹ Our method for capturing parenting inconsistency was relatively novel, in that it was assessed directly rather than through global reports of parenting which may be biased by memory demands and the need for mental arithmetic to evaluate parenting across several days.⁶ By asking youth to report parental knowledge each day and using statistical methods to capture within-person variability, the index of inconsistency is free of these sources of bias.^{6,9}

When parents are inconsistent, such as in their availability to listen to youth disclose information about their experiences or in their solicitation of information, youth may perceive fewer consequences for misbehavior given that parents are uninformed about their conduct. Further, youth may perceive parents who are inconsistent as uninterested or less

caring, which may increase youths' risk for poor psychological health.^{10–13} If parents inconsistently keep abreast of how their children are feeling, they may less readily detect when their children are coming down with a cold or flu and therefore take early preventive or remedial action. As a result, inconsistent parental knowledge may hinder youth physical health. In addition, youth who engage in risky behavior, and those who are less psychologically and physically healthy may also be less likely to consistently disclose information to their parents.^{5,14} For these reasons, youth with parents who experience greater knowledge inconsistency may exhibit poorer behavioral, psychological, and physical health. In this study we built on prior research on parents' levels of knowledge to examine whether knowledge inconsistency explained unique variance in youth health outcomes, and we also investigated the role of parental knowledge in youths' physical health. Although research documents links between levels of parental knowledge and youth risky behavior and depression,¹⁴ there are as yet no studies of knowledge inconsistency, and we know virtually nothing about the role of parental knowledge in promoting youth physical health.

We also examined the roles of youth gender and age as potential moderators of the links between knowledge inconsistency and youth health outcomes, testing the hypotheses that inconsistency would be more strongly linked to outcomes for girls and older adolescents. First, gender differences in the implications of knowledge inconsistency may arise because of differences in girls' versus boys' parent-child relationships. For example, parents monitor girls more than boys, girls disclose more information to their parents than boys,¹⁵ and some studies found stronger associations between knowledge and problem behavior for girls than boys.^{16, 17} Inconsistency in parents' knowledge may therefore be more strongly linked to health outcomes for girls than boys. With respect to age, adolescents spend increasingly less time with their parents but more time with peers and unsupervised time with age, making it more difficult for parents to consistently keep track of their children's experiences.¹⁸ Beyond mean level of knowledge, inconsistency in knowledge may reflect youths' increasing autonomy. Further, adolescence is marked by increases in psychological and behavioral health problems, such as depression and risky behavior.¹⁹ Thus, knowledge inconsistency may have stronger implications for youth health in later adolescence than earlier on.

The Role of Parents' Stress in Knowledge Inconsistency

The second goal of this study was to explore factors that may underlie knowledge inconsistency. Prior research suggests that parents who experience more stress are less warm and more withdrawn in their interactions with their children and less likely to use effective discipline strategies.^{20–24} Thus, parents' stress may have negative implications for the parent-child communication patterns that underlie parental knowledge and may also interfere with family management practices, such as parental solicitation and supervision,²² leading to greater knowledge inconsistency. Parents' stress also has implications for the emotional tone of parent-child relationships, including greater conflict and less warmth,^{20–23} which may inhibit youths' self-disclosure.²⁵ Stress may also impact cognitive functioning, thus influencing a parents' ability to consistently collect and retain information.²⁶ Most research on parents' stress has examined its implications for parents' average levels of parenting practices. However, parents who are stressed may also be more inconsistent in

their knowledge.²⁷ Stress may affect whether or not parents consistently supervise their children and whether or not youth consistently disclose information, which may lead to knowledge inconsistency. We explored this idea in the current study, testing the hypothesis that parents who reported higher levels of stress would exhibit greater inconsistency in their parental knowledge.

The Current Study

We used data from face-to-face surveys with employee-parents and their adolescent-age offspring in combination with eight, consecutive nightly diary telephone calls to study intra-individual fluctuation, or inconsistency, in parental knowledge, its implications for youth psychological, behavioral and physical health, and its links with parents' stress. A daily diary design allowed us to capture knowledge inconsistency, given that on some days parents may have more knowledge than on other days. We hypothesized that, beyond average levels of knowledge, greater inconsistency in youth reports of parental knowledge would be associated with more risky behavior, poorer psychological well-being, and more physical health symptoms especially for girls and for older adolescents. We also tested the hypothesis that higher levels of parents' stress would be linked to greater knowledge inconsistency.

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.^{28, 29} The subsample for the current analyses included 129 employees (45% female; mean age = 45.24, *SD* = 6.30) with a child between the ages of 9–17 (55% female; mean age = 13.4, *SD* = 2.40) who lived with them for at least four days a week, who agreed to participate in a home survey and a series of eight nightly telephone surveys, and who participated in diary calls for at least three days. Most parents were college graduates (78%) and the majority were married or cohabitating (87%), with annual incomes averaging between \$110,000 and \$119,999. The majority of youths were White (59%), 3% were African American, 15% were Hispanic, 18% were Asian or Asian Indian and 4% were another race or more than one race.

Procedures

In workplace surveys, employee-parents provided informed consent and reported on family demographics, work and family experiences and individual well-being. In home interviews, the study procedures were first explained. Then, parents were asked to sign consent forms for themselves and their child. Youth were asked to sign a form conveying their assent for participation and were told they may choose not to participate or to stop at any time. Youth were then interviewed separately about their health, adjustment, and family relationships. Finally, in a series of 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. The data collection centers' Institutional Review Boards approved the procedures. Parents and children received \$75 each for participation.

Measures

Daily diary measures—*Parental knowledge* was assessed in the youth phone surveys using a four-item, 4-point (1 = *almost nothing*, 4 = *a lot*) scale drawn from Stattin and Kerr,⁵ e.g., “Since this time yesterday, how much did your parent really know about how you spent your free time?” Daily knowledge scores were averaged across the eight diary days to create mean knowledge scores (Cronbach’s alpha was .77). Inconsistency scores were calculated as the within-person standard deviation of knowledge scores across the eight days, with high scores signifying greater day-to-day fluctuation.³⁰

Youth reported on their *daily physical health symptoms* during the telephone surveys using a six item measure drawn from Larsen and Kasimatis.³¹ 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. Responses were summed within each day and then averaged across all eight days to reflect the average number of daily health symptoms.

Parents’ daily stressors at home and at work were assessed in the telephone surveys using ten items drawn from the Daily Inventory of Stressful Events,³² e.g., “Since this time yesterday, did you have demands placed on you at your job that were stressful (such as facing a deadline like a release date, being on call or carrying a pager, or too many conflicting meetings)?” Responses (0 = *no*; 1 = *yes*) were summed within each day and then averaged across all eight days to reflect the average number of daily stressors.

Global reports—Youth reported on their *risky behavior* during the past six months in the home interviews using a 14-item scale,³³ e.g., “In the past six months how many times have you stolen something?” Risky behaviors were rated on a 4-point scale (1 = *never* to 4 = *ten or more times*) and averaged. Cronbach’s alpha was .84.

Youth rated their *psychological well-being* over the past month during the home interviews using a seven-item measure,³⁴ e.g., “In the past month, how often did you feel happy?” Items were rated on a 4- point scale (1 = *never* to 5 = *almost always*) and averaged. Cronbach’s alpha was .87.

Parents’ global stress over the past month was assessed in the workplace interviews using a four-item, 5- point scale (1 = *very often* to 5 = *never*) scale,³⁵ e.g., “During the past 30 days, how often have you felt difficulties were piling up so high that you could not overcome them?” Responses were summed. Cronbach’s alpha was .76.

Moderators and control variables that have been associated with parental knowledge in past studies were included: youth gender (0 = *male*, 1 = *female*), youth age, and marital status (0 = *Single*; 1 = *Married/Cohabiting*). The number of hours worked and spousal work status were uncorrelated with our outcome variables.

Results

Descriptive Statistics

Means and correlations for study variables are provided in Table 1. The intra-class correlation for parental knowledge revealed that 46% of the variance reflected within-individual differences across the eight diary days, suggesting that knowledge inconsistency was evident in this sample. Further, inconsistency scores were normally distributed with a range from 0 to 1.25, indicative of substantial between-person differences. Finally, knowledge mean and inconsistency scores were highly correlated ($r = -.70$), indicating that parents who were more knowledgeable were also more consistently knowledgeable. In the face of this high correlation, detecting unique effects of knowledge inconsistency after controlling for level of knowledge, would provide strong evidence of the importance of this parenting dynamic. Importantly, the variance inflation factor (VIF) for knowledge inconsistency ranged from 2.16 to 2.03, well below the recommended VIF cutoff of 10, suggesting that multicollinearity would not bias our estimates.³⁷ Mothers and fathers did not differ in knowledge level or inconsistency.

Inconsistency in Parental Knowledge and Youth Health Outcomes

To address our first goal, we used OLS regression to assess the links between knowledge inconsistency and each of the three youth health outcomes, controlling for average knowledge and demographic variables. We also tested whether these links were moderated by youth gender and age.³⁶ Each outcome variable was assessed separately. Results supported our predictions: Knowledge inconsistency was positively linked to risky behavior and physical health problems, but moderation effects also emerged (Table 2). First, a significant knowledge inconsistency by gender interaction for risky behavior, coupled with follow-up simple slopes tests, revealed that this association was significant for girls, $B = .67$, $SE = .19$, $p < .01$, but not for boys, $B = -.01$, $SE = .19$, ns . Second, contrary to our hypothesis, a significant knowledge inconsistency by youth age interaction in combination with follow-ups revealed that inconsistency was positively associated with psychological well-being for older, $B = .68$, $SE = .33$, $p < .05$, but not younger adolescents, $B = -.43$, $SE = .30$, ns .

Parents' Stress and Knowledge Inconsistency

To address our second goal, we used an OLS regression model to test whether, controlling for average knowledge, parents' stress was linked to inconsistency in parental knowledge (Table 3). Models also controlled for marital status and youth age and gender. As hypothesized, parents who reported more global stressors ($p = .06$) and daily stressors ($p < .05$) exhibited greater knowledge inconsistency.

Discussion

Although most research on the role of parenting in youth health and well-being focuses on parents' average behavior, parenting theories have long emphasized the importance of consistency in parenting practices.^{7, 8} We built on this work to study the implications of day-to-day inconsistency in parental knowledge for youth health outcomes, and the role of

parents' stress in knowledge inconsistency. Our analyses revealed substantial day-to-day fluctuation in youth reports of parental knowledge: Parents differed in their knowledge from one day to the next almost as much as they differed from other parents, underscoring the importance of research on inconsistency as a fundamental dimension of parenting. Importantly, associations between knowledge inconsistency and youth health emerged even when we controlled for the more typically studied, average level of knowledge. Despite the high correlation between the mean and inconsistency knowledge scores, inconsistency emerged as a unique predictor of youth physical health symptoms and risky behavior. Taken together, our findings suggest that assessing only average levels of knowledge may fail to fully capture the ways in which parental knowledge is associated with youth health.

Youth with parents who exhibited more inconsistency in knowledge reported more physical health symptoms, such as colds, stomachaches, and headaches. Parents with inconsistent knowledge may be less likely to know about and respond to their children's physical health symptoms. Parents with inconsistent knowledge may provide less preventive or palliative care to minimize the time and intensity of illnesses, including keeping youth home from school, ensuring rest, or accessing medical treatments. Parents with inconsistent knowledge may also be less likely to encourage youth activities that prevent illness (e.g., exercise) or reduce exposure to illness (e.g., stopping a child from going to a friend's home who is ill).^{38, 39} Importantly however, youth who are ill also may also be less likely to disclose information to their parents, with the result that parents are less consistent in their knowledge. Prior research on parental knowledge has not yet examined youth physical health correlates. As such, our study breaks new ground and directs attention to this domain of youth functioning in future studies of parental knowledge.

Another contribution of this study was examination of the moderating roles of youth gender and age. We found that knowledge inconsistency was linked to risky behavior only in girls. These results extend prior research which showed that level of parental knowledge had stronger links to risky behavior for girls than boys.¹⁷ Some studies suggest that girls disclose more information to their parents and that parents monitor girls more than boys.^{15,16} Inconsistency in knowledge may be more normative for boys, and thus less closely linked to risky behavior.

We also found that youth age moderated the relation between inconsistency and psychological health. Contrary to our hypothesis, however, more knowledge inconsistency was linked to greater psychological well-being for older adolescents. Fluctuation in knowledge may mark autonomy granting on the part of parents and an increased respect for youth privacy that is linked to healthy development in older adolescents.⁴⁰ Interventions may need to emphasize the normative nature of day-to-day knowledge inconsistency in later adolescence, and the importance of allowing adolescents to keep some information private. However, given the positive associations between knowledge inconsistency and behavioral and physical health, this pattern of results requires replication. It was unexpected that youth age did not moderate the associations with risky behavior, given the increases in these behaviors through adolescence. Consistency in knowledge may reflect a close emotional bond that promotes internalization of prosocial norms and protects against risky behavior throughout adolescence.¹³ Additionally, youth who engage in risky behavior may begin

withholding information from parents early on and continue with this pattern throughout adolescence.

Our second goal was to examine the role of parents' stress in knowledge inconsistency. Findings supported the hypothesis of their positive linkages. Stress may affect parents' cognitive processes, impeding their ability to consistently seek information and attend to, recall, and take action regarding their children's activities and whereabouts.^{26, 27} In addition, to the extent that stress interferes with warm and responsive parenting, youth may also regard parents who are stressed as uninterested in their disclosures or likely to overreact, leading them to withhold information about their experiences.²⁵ These findings highlight the need to include stress-management components into parent-focused interventions. Parents also may need to be trained on how to adapt their parenting strategies by youth gender and age.

These findings should be considered in light of the study design. First, the direction of effect cannot be inferred from these cross-sectional data: Youth adjustment and health problems may lead to inconsistency in parental knowledge rather than the other way around. Nor can the processes linking knowledge inconsistency and youth health be discerned. Inconsistency in knowledge may mark ineffective family management by parents, adolescent decisions about disclosures to parents, or the emotional tone of the parent-youth relationship.^{1,14} Longitudinal studies that directly test mediation processes would shed light on how day-to-day inconsistency in knowledge influences youths' health. Another limitation is that the sample included youth with relatively well-educated and affluent parents who were employed in one industry. Thus, our results require replication with other groups of youth. The results were based on youth reports of parental knowledge and youth reports of their health outcomes and common method variance may underlie some of the findings. Further, our study measured the knowledge of only one parent, and a second parent's or other caregivers' knowledge may have had implications that were not captured in this study. Intervention studies, in which youth are randomly assigned to conditions that promote consistency in parental knowledge and other forms of parental involvement are needed to rule out unmeasured third variable explanations of the linkages we observed. Future studies are needed to assess the same-day linkages between parental knowledge and youth health. Some of our measures were shortened for daily use to reduce participant burden, which may have affected their validity. Finally, because knowledge inconsistency is a new focus of research, our findings require replication.

Despite these limitations, this study sheds new light on the links between parental knowledge and youth outcomes and has important intervention implications. In some cases, to be most effective, parental knowledge may need to be consistent from day to day to best promote behavioral and physical health. Our findings also suggested, however, that knowledge inconsistency may reflect normative increases in autonomy in later adolescence as youth spend more time away from home with less opportunity for disclosure and less need for parents to supervise their activities as evidenced by the positive association between inconsistency and psychological well-being for older adolescents. Finally, parents' stress was linked to greater inconsistency in knowledge, and thus our findings suggest that

parenting interventions should go beyond a focus on parenting practices to consider the broader contexts of parents' lives that support or undermine their child rearing efforts.

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Summary of Implications

Inconsistent parenting is linked to youth health. We found that day-to-day inconsistency in parental knowledge about youth activities was associated with more physical health symptoms in youth and risky behavior in girls, but better psychological well-being for older adolescents. Parents who reported more stress were more inconsistent in their knowledge.

Table 1
Means, Standard Deviations, and Pearson Correlations between Study Variables

	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.
1. Parental knowledge - Mean	3.35	.62								
2. Parental knowledge - Inconsistency	0.41	.33	-.70***							
3. Youth risky behavior	1.38	.40	-.34**	.36***						
4. Youth psychological well-being	4.26	.60	.29***	-.21**	-.18*					
5. Youth physical symptoms	0.61	.57	-.19	.29**	.39***	-.25**				
6. Parents' mean number of daily stressors	1.21	.90	-.25**	.26**	.03	-.10	.06			
7. Parents' global reports of stress	8.93	2.91	.04	.11	.10	-.08	.01	.41***		
8. Youth age	13.40	2.40	-.21*	.26	.34***	-.01	-.04	-.01	-.04	
9. Youth gender	55% female		.04	-.07	-.001	.21*	.16	-.09	-.02	.21*

* $p < .05$,

** $p < .01$,

*** $p < .001$

Table 2
 Estimates and Standard Errors from OLS Regression Models Testing Links between Day-to-Day Inconsistency in Parental Knowledge and Youth Health Outcomes

	Risky behavior		Psychological Well-being		Physical health	
	<i>Est.</i>	<i>(SE)</i>	<i>Est.</i>	<i>(SE)</i>	<i>Est.</i>	<i>(SE)</i>
Model 1: Main effects						
Youth age	0.05*	(0.01)	0.01	(0.02)	.004	(0.02)
Youth gender	0.03	(0.06)	0.25*	(0.10)	0.23*	(0.10)
Marital status	-0.17	(0.09)	0.13	(0.16)	0.02	(0.15)
Mean knowledge	-0.03	(0.08)	0.37*	(0.12)	0.01	(0.11)
Inconsistency knowledge	0.33*	(0.14)	0.10	(0.22)	0.52**	(0.20)
Model R ²	0.25***		0.15**		0.13**	
Model 2: Moderation by youth gender						
Youth age	0.04**	(0.01)	0.01	(0.02)	0.01	(0.02)
Youth gender	0.02	(0.06)	1.19	(0.96)	0.22*	(0.09)
Marital status	-0.21*	(0.09)	0.11	(0.15)	-0.01	(0.15)
Mean knowledge	-0.07	(0.10)	0.52**	(0.17)	-0.04	(0.16)
Inconsistency knowledge	-0.01	(0.19)	0.10	(0.30)	0.28	(0.27)
Mean knowledge × gender	0.08	(0.15)	-0.28	(0.24)	0.11	(0.22)
Inconsistency knowledge × gender	0.67*	(0.28)	-0.01	(0.44)	0.52	(0.40)
Model R ²	0.31***		0.17**		0.14**	
Model 3: Moderation by youth age						
Youth age	0.05*	(0.01)	0.01	(0.02)	-0.23	(0.19)
Youth gender	0.01	(0.06)	0.23*	(0.10)	0.22*	(0.09)
Marital status	-0.13	(0.10)	0.19	(0.16)	-0.00	(0.15)
Mean knowledge	-0.03	(0.08)	0.37**	(0.12)	-0.01	(0.11)
Inconsistency knowledge	0.28	(0.14)	0.12	(0.22)	0.53*	(0.20)
Mean knowledge × age	0.01	(0.03)	0.12*	(0.05)	0.07	(0.05)
Inconsistency knowledge × age	0.08	(0.07)	0.24*	(0.09)	0.02	(0.09)
Model R ²	0.27***		0.19***		0.15**	

Note.

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

Gender is coded as 0=*male*, 1=*female*. Marital status is coded as 0=*single*, 1=*married/cohabitating*.

R-squared asterisks indicate the significance of the overall model.

Table 3

Estimates and Standard Errors for OLS Models Predicting Inconsistency in Parental Knowledge as a Function of Parents' Global and Daily Stress

	<i>Est.</i>	<i>(SE)</i>
Global Stressors		
Youth age	0.01	(0.01)
Youth gender	-0.05	(0.04)
Marital status	-0.01	(0.06)
Mean knowledge	-0.38**	(0.03)
Global parents' stress	0.02 ^t	(0.01)
Model R ²	0.52***	
Daily Stressors		
Youth age	0.01	(0.01)
Youth gender	-0.04	(0.04)
Marital status	0.01	(0.06)
Mean knowledge	-0.37*	(0.04)
Daily parental stress	0.05*	(0.01)
Model R ²	0.52***	

Note.

^t
 $p = .06,$

*
 $p < .05,$

**
 $p < .01,$

 $p < .001.$

Gender is coded as 0=*male*, 1=*female*. Marital status is coded as 0=*single*, 1=*married/cohabitating*.

R-squared asterisks indicate the significance of the overall model.