Similarities or differences in parenting between reports about mothers and fathers may be associated with the format of the questionnaire. The purpose of this study was to examine three questionnaire formats for collecting the same data about fathers and mothers from adolescents and emerging adults. Study 1 used secondary data analyses from three cross-sectional studies with 820 Latino adolescents using the three survey formats. Study 2 used data from a blind experimental design with 472 emerging adults where the three survey formats were randomly assigned to participants. The analyses from studies with adolescents and emerging adults demonstrated that when the items are asked in the Top Bottom and Left Right formats there are significantly higher correlations between responses about mothers and fathers than when the items are asked in the Separate Pages format.

Keywords: instrumentation threat, method error, mother, father, parenting behaviors

Despite compelling evidence that aspects of parenting are associated with a wide range of youth outcomes, the examination of both fathers’ and mothers’ parenting is an emerging science (Henry & Hubbs-Tait, in press). Although earlier parenting research focused on mothers as parents, since the mid 1970s scholars increasingly recognized that fathers, as well as mothers, engage in parenting that is integrally involved with child well-being (Palkovitz, 2007; Pleck, 2010). Methodological issues emerge as researchers use assessments of the same parenting variables about mothers and fathers

1 Department of Psychology, California State University Northridge.
2 Department of Human Development and Family Science, Oklahoma State University.
3 Department of 4-H, Youth Development, and Family & Consumer Sciences, North Carolina State University.

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Correspondence concerning this article should be addressed to Scott W. Plunkett, Department of Psychology, California State University Northridge, 18111 Nordhoff Street, Northridge, CA 91330-8255. Email: scott.plunkett@csun.edu
within the same models. Adamsons and Buehler (2007), for example, advocated examination of measurement equivalence before using the same instruments with fathers and mothers to reduce the likelihood of finding exaggerated differences in parenting by mothers and fathers. Another methodological concern affecting the examination of both mothers and fathers using the same instrument is the degree of influence the questionnaire format has on how similarly mothers and fathers are rated by their children. Hence, the purpose of this study is to examine three questionnaire formats for collecting the same data about mothers and fathers from adolescents and emerging adults. This information holds potential to provide important insights into the similarity or differences between perceptions of fathers and mothers, and is of particular relevance to scholars who seek to understand the role of perceived parenting by each parent.

**ADOLESCENT REPORTS OF MOTHERS AND FATHERS: THREATS TO INTERNAL VALIDITY**

Researchers utilize a range of approaches to investigating youth responses about both mothers and fathers. The early study of fathering focused on variables such as engagement, availability, and responsibility utilizing diaries or observation (Pleck, 2010). Currently, self-report measures (parents’ and or children’s) are widely used including parental support and control variables that emerged from earlier studies of mothers (Pleck). Given the calls for including both fathers’ and mothers’ variables within the same research models (e.g., Barber, Stolz, & Olsen, 2005) or controlling for mothers’ variables in fathering research (Pleck), a notable challenge is that high correlations may be present between fathers and mothers on the same variables (e.g., Tein, Roosa, & Michaels, 1994). It is likely that mothers and fathers engage in some similar parenting behaviors (i.e., a “true” correlation between reports of mothers and fathers), yet it is also possible that some “spurious” correlation exists due to shared-method variance (a type of error variance).

These correlations run the risk of spurious results due to multicollinearity if reports about mothers and fathers are entered into the same analyses (e.g., ordinary least squares [OLS] regression; Barber, Stolz, & Olsen, 2005). Specifically, researchers may erroneously conclude that some behaviors by mothers or fathers are not important if they are not significant in the OLS regression. One reason a parenting variable may no longer be significant when including responses about fathers and mothers is because of how OLS regression deals with shared variance between predictors (i.e., OLS regression assesses the unique contributions of a parenting variable beyond any effect shared with other parenting variables; Barber, Stolz, & Olsen).

One response to high correlations and subsequent multicollinearity concerns is to combine reports of mothers’ and fathers’ behaviors into a variable called “parenting” (e.g., Ghazarian, Supple, & Plunkett, 2008). This approach often assumes that the correlation between reports of mothers and fathers is a “true” correlation. Yet, this approach minimizes the ability to discriminate between the unique contributions of each parent. Further, this approach may suppress the richness of the data by prohibiting research questions that involve one respondent and two targets that hold potential to in-
vestigate the extent to which adolescents perceive their fathers and mothers in similar or different ways (Kenny, Kashy, & Cook, 2006). Finally, research that combines responses about mothers and fathers into one variable may not provide insights beyond those obtained when measuring ‘parents’ without distinguishing between fathers and mothers.

A second response to moderate/high correlations between reports about mothers and fathers is to run separate models for responses about each parent. Yet, the results of father only and mother only models sometimes look almost identical (possibly due to “true” correlation) and do not consider how responses about one parent may differ in the context of the other parent. Hence, the separate models’ approach may result in findings that are not representative of the interplay between perceptions of mothers’ and fathers’ behaviors (see Stolz et al., 2005 for a discussion). Furthermore, this approach fails to control for any of the shared variance, and therefore does not adequately identify the unique contributions of each parent.

A third, more recent approach by parenting scholars is to include reports about fathers and mothers within the same model (e.g., Henry, Plunkett, & Sands, 2011; Plunkett, Henry, Houltberg, Sands, & Abarca-Mortensen, 2008; Stolz et al., 2005) using dominance analyses (Azen & Bucescu, 2002; Bucescu, 1993) or relative weight analyses (Johnson, 2000) to more specifically assess the contributions of each parent. These approaches minimize the problems of multicollinearity in OLS regression by determining the unique and partial joint variance contributed by each mother and father variable. Hence, such approaches can more accurately assess the relative contribution of each parent in the context of each other. Yet, this approach assumes moderate/high correlations between fathers’ and mothers’ variables are due to respondents having similar perceptions of each parent (i.e., “true” correlation). But, it is possible that the partial joint variance estimate will also include an unknown component of shared-method variance.

A fourth response is the use of sophisticated dyadic analysis techniques to parcel out mothers’ and fathers’ roles (e.g., Kenny et al., 2006). Dyadic research methods recently gained considerable attention across the social sciences and beyond (e.g., Lyons & Sayer, 2005; Perry-Jenkins, Goldberg, Pierce, & Sayer, 2007). The central premise underlying dyadic research is the idea of nonindependence, or in this case, that reports about both parents are linked by the common respondent; which contradicts the basic assumptions of many statistical methods (e.g., ANOVA, regression). Understanding the high correlations often found in reports of parenting factors, these methods offer generous solutions to many of the issues of nonindependent parent data. Hierarchical linear modeling (HLM), for example, allows for parceling out each parent’s effects by considering parents as members of one group composed of both mothers and fathers (Kenny et al., 2006).

When researchers find moderate/high correlations between reports of fathers’ and mothers’ behaviors, such correlations may involve both representing “true” substantive similarities (i.e., youth perceive their parents similarly consistent with the overall family climate, Tein et al., 1994) or spurious similarities associated with error variance due to shared method. In this study, we examine the possibility of spurious shared method
variance (a form of error variance) as an artifact of the way the data are collected (i.e., an instrumentation threat). Hence, the internal validity of the study may be threatened, possibly resulting in erroneous conclusions about the nature of perceived parenting. Parenting scholars seeking to sort out the relative importance of mothers and fathers must recognize and consider how survey design, including questionnaire format, can potentially influence the results. If differences arise based on survey design, then parenting researchers must be diligent in specifying exactly how the questions about parents are formatted on surveys.

**Parenting Questionnaire Formats**

Several questionnaire formats are routinely used to assess how respondents view their fathers and mothers. Yet, few studies clarify in the measurement section the format of how the parenting questions are asked on the survey. For example, in the *Top Bottom* format shown in Figure 1, the respondents read the item and provide responses about both mothers and fathers. Implicit in this format is an assumption that respondents can best distinguish between fathers’ behaviors and mothers’ behaviors when they are close together. This format is quicker to complete because the respondents only have to read each item once prior to responding. However, this format may encourage respondents to give the same response (e.g., “agree”) about mothers and fathers; hence, providing less distinction between the two parents. In a previous study using this format, the authors noticed some respondents marking the same answer for both parents with one circle; which raised concerns about this format. It was unclear if using one circle for both parents was because (a) the parents really were that similar, (b) the respondents were thinking more about “parents” instead of mothers and fathers separately, and/or (c) the respondents were using one circle for convenience due to survey format.

![Figure 1. Top Bottom responses.](image)

In the *Left Right* format in Figure 2, the respondents read the item once, but the response choices for fathers and mothers are on separate sides of the page. This format does not allow respondents to just use one circle to answer for both parents. However, respondents can do side-to-side comparisons of each parent; which could increase the likelihood of having same responses, or result in more distinction between each parent figure.

In the *Separate Page* format in Figure 3, the respondents are asked to respond to items about their mother on one page, and then on a separate page the respondents are asked to read and respond to the same items about their father. Although this method may take longer to complete, it is likely this method will result in more distinction be-
tween perceptions of fathers and mothers because the respondent is asked to consider
one parent at a time. In other words, the respondent is more likely to just be thinking
about one parent as compared to the two previous formats where the respondent is
thinking about the mother and father simultaneously. Hence, it is hypothesized that re-
spondents will show greater distinction between reports of fathers and mothers in the
**Separate Page** format than the **Top Bottom** and **Left Right** formats.

**Figure 2.** Left Right responses.

Although research on parenting behaviors involves a range of variables, this study
used the tripartite classification popularized by prominent parenting scholars (Amato
& Fowler, 2002; Barber, Maughan, & Olsen, 2005; Schaefer, 1965; Steinberg, Dorn-
busch, & Brown, 1992). Specifically, three central aspects of parenting were exam-
ined: (1) **support**, or behaviors such as warmth, general support, affection, and praise
(Peterson, 2005); (2) **psychological control**, or intrusiveness into the offspring’s sense
of self, thoughts, or feelings (Barber, Maughan, & Olsen, 2005); and (3) **monitoring**,
or knowledge of the child’s friends, locations, and activities (Stattin & Kerr, 2000). Al-
though various terms exist for similar parenting constructs within this classification
system, the results of cross cultural research generally found that parental support and
monitoring are related to positive aspects of development and psychological control is
related to more negative aspects of development (Peterson, 2005).

**METHOD**

**Procedures**

Two studies were conducted. The first study involved secondary data analyses from
three cross-sectional studies with Latino adolescents using the three survey formats.

<table>
<thead>
<tr>
<th>Mother</th>
<th>Father</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>Disagree</td>
<td>Disagree</td>
</tr>
<tr>
<td>Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

Please answer how much you agree with each statement about your primary mother figure AND father figure.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

*Note:* Items about fathers appear on a separate page.

**Figure 3.** Separate Pages responses.
The second study used data from a blind experimental design with emerging adults where the three survey formats were randomly assigned to participants.

**Study 1.** Project investigators contacted administrators at four high schools in Los Angeles County and two high schools in North Carolina to solicit participation in the research. Data from one school (61% Latino) in Los Angeles used the **Top Bottom** format. Data from two schools (89% Latino and 25% Latino) used the **Separate Pages** format. Data from one high school in Los Angeles (90% Latino) and two schools in North Carolina (23% Latino and 14% Latino) used the **Left Right** format. The vast majority in each of the schools in California and North Carolina were Mexican origin (followed by Central American origin) adolescents from immigrant families residing in mostly lower class neighborhoods. In all the schools, the target population was 9th graders, although a small number of 10th, 11th, and 12th graders participated. After securing permission from an administrator at each school, the investigators and student research assistants (RAs) informed teachers about the research process. Teachers were given parental consent forms (English/Spanish) for their students to take home to their parents to obtain signatures and return to the teacher. Students who had signed parental consent forms and who signed youth assent forms were allowed to complete the surveys. All surveys were in English, but most of the RAs were multilingual (mostly bilingual in English and Spanish). All data were coded, entered, and verified for accuracy by trained RAs.

**Study 2.** Data were collected from students at an ethnically diverse university in southern California in a blind experimental design. Specifically, the subjects were randomly assigned one of the three questionnaire formats. They were told the study was about parenting related to academic outcomes; but were not told that the format of the questionnaire varied among participants. The data were collected in lower-division, general education courses. The participants were given a consent form that outlined that participation was voluntary and anonymous, answers would be confidential, and participants could decline to answer or participate at any time. To minimize an ordering effect (i.e., having mother questions first might influence questions about fathers), half of the surveys had items about mothers first (top, left, or first page depending on survey format) and then items about fathers next (bottom, right, or second page). The other half of the surveys asked about fathers first (top, left, or first page) and then mothers next (bottom, right, or second page). Trained RAs randomly distributed one of the three questionnaire formats to participants. The RAs collected, coded, entered, and verified the data.

**Participant Characteristics**

**Study 1.** A subsample of 820 Latinos was used for this study. Because the ethnic composition varied in the six schools, only Latinos (the largest ethnic group in the overall sample) were included in the analyses. To constrain potential confounds introduced by variation in family structure, participants were limited to youth from two-parent, intact
families rather than different parent figures (e.g., step, adoptive). From this subsample, 56.7% were female participants with their ages ranging from 13-20 years ($M = 15.0$, $SD = 1.2$). The grade levels ranged from ninth to twelfth grade, but the majority (71.7%) of the participants were in ninth grade. In this sample, 69.2% were U.S. born, with 9.2% of mothers and 5.5% of fathers born in the U.S.

**Study 2.** A sample of 472 emerging adults from one ethnically diverse university from two-parent intact families was included in the analyses. Ages ranged from 18-25 years ($M = 19.1$, $SD = 1.6$). Female participants made up 73.5% of the sample. Regarding ethnicity, 35.4% were Latino, 31.0% were Caucasian (White, Armenian, Middle Eastern), 15.9% were Asian, 6.1% were African American, 10.2% were mixed, and 1.5% missing. In regards to birth countries, 81.8% of participants, 29.0% of the mothers, and 31.6% of the fathers were born in the United States. The remaining parents were born in 57 different countries. The sample consisted of 55.9% freshmen, 27.9% sophomores, 11.0% juniors, and 5.1% seniors.

**Measurement**

Sample characteristics were assessed using standard demographic items. In the three survey formats across all data collection sites, the items about parents were asked after a few demographic items; hence reducing the possibility other scales in the survey would influence the parenting items. In the survey for adolescents, the total survey was five to six pages long (depending on the data collection site). In the survey for emerging adults, the total survey was two pages.

Perceptions of mothers’ and fathers’ behaviors were assessed using subscales of the Parental Behavior Measure (Bush, Supple, & Lash, 2004; Peterson, 1982). The 4-item parental support subscale was used to assess participants’ perceptions of fathers’ support and mothers’ support. Perceptions of monitoring (6 items) were assessed by asking participants to respond about parental awareness of their activities, interests, friends, and schedule. Psychological control (6 items) was comprised of items measuring love withdrawal and guilt induction. Sample items were: (1) “This parent seems to approve of me and the things I do” (support), (2) “I tell this parent who I am going to be with when I go out” (monitoring), and (3) “This parent will not talk to me when I displease him/her” (psychological control). Responses (1 = strongly disagree to 4 = strongly agree) to the items about mothers and fathers were averaged separately to create mean scores for each subscale. See Table 1 for the Cronbach’s alphas for each subsample.

**RESULTS**

**Correlations Between Survey Formats**

Correlations between perceived mothers’ and fathers’ behaviors for all three variables (i.e., monitoring, support and psychological control) were calculated. For all three vari-
ables, the highest correlations were found in Top Bottom and Left Right, with the lowest correlations in Separate Pages (see Table 2). Next, Fisher’s $z'$ transformations were conducted, and then these values were used to compare the strength of the correlations (Fisher, 1921; Warner, 2008) for each pair of surveys.

**Study 1.** The correlation between perceived fathers’ and mothers’ support for Separate Pages was significantly lower than Left Right ($z = 3.40, p < .001$) and Top Bottom ($z = 5.56, p < .001$). Further, the correlation between perceived mothers’ and fathers’ support for Left Right was significantly lower than Top Bottom ($z = 2.16, p < .05$). Next, the correlation between perceived fathers’ and mothers’ monitoring for Separate Pages was significantly lower than Left Right ($z = 1.97, p < .05$). Finally, the correlation between perceived mothers’ and fathers’ psychological control for Separate Pages was significantly lower than Left Right ($z = 2.61, p < .01$) and Top Bottom ($z = 3.68, p < .001$).

**Study 2.** The correlation between perceived fathers’ and mothers’ support for Separate Pages was significantly lower than Left Right ($z = 3.78, p < .001$) and Top Bottom ($z = 3.45, p < .001$). The correlation between perceived mothers’ and fathers’ monitoring for Separate Pages was significantly lower than Left Right ($z = 6.26, p < .001$) and Top Bottom ($z = 6.28, p < .001$). Also, the correlation between perceived fathers’ and mothers’ psychological control for Separate Pages was significantly higher than Left Right ($z = 5.26, p < .001$) and Top Bottom ($z = 5.28, p < .001$).

**Multiple Group Confirmatory Factor Analyses**

To illustrate how the questionnaire format may differentially affect the way participants respond to the items, we conducted multigroup confirmatory factor analyses (CFA) using EQS (Bentler, 2004) that compared just two methods (i.e., Top Bottom...
and Separate Pages) on items in just one parenting measure (i.e., support) as an example. As seen in Figure 4, we hypothesized separate but correlated mothers’ and fathers’ support factors with additional correlated errors between corresponding items (e.g., “My mother has made me feel that she would be there if I needed her” and “My father has made me feel that he would be there if I needed him”). Separate multigroup CFAs were conducted comparing Top Bottom format to the Separate Pages format within the samples from Study 1 and Study 2. We hypothesized that the multigroup CFAs will indicate that the Top Bottom format will have higher correlations between the fathers’ and mothers’ support factors as well as the correlations between the errors when compared to the Separate Pages format.

**Study 1.** The first step in a multigroup CFA is to establish that the same basic factor structure shown in Figure 4 fits the data in both the Top Bottom and Separate Pages groups; this is known as configural invariance (e.g., Widaman & Reise, 1997). The hypothesized model fit the data well in both the Top Bottom (c²(15) = 35.744, p = .002, CFI = .978, RMSEA = .087) and Separate Pages (c²(15) = 28.490, p = .02, CFI = .991, RMSEA = .047) groups without any model modification. The second step is to force equality on all of the components of the model (i.e., factor loadings, variances, correlations) between the two models and test the fit of the constrained model. If the model fits, then the models are invariant across the two groups. If the fit is poor, the Lagrange multiplier test can be used to release constraints until the model fit is good again (Kline, 2011; Tabachnick & Fidell, 2007). For the sample of Latino adolescents in Study 1, the fit of the constrained model (Model 1) indicated some mild misfit between the two groups (see Table 3). The Lagrange multiplier test is a statistical method for testing whether adding a parameter to a model would significantly improve fit and is also used to test for equality of parameters across groups through the use of model-based constraints (Byrne, 1994; Kline, 2011). We used the Lagrange multiplier test and released significant constraints (χ² critical value with one degree of freedom is 3.84) one at a time.
time until the model, with the remaining constraints, fit. As seen in Table 3, all but one of the constraints that were removed pertained to the correlation between the mother and father support factors and the correlated errors between mother and father items. In each case, the size of the correlation between the factors, the correlations between the error variances, and the error variances themselves were smaller for the respondents in the Separate Pages format than the Top Bottom format. For instance, the correlation between the mother and father support factors was $r = .395$ in the Separate Pages format, but $r = .748$ for the Top Bottom format.

**Study 2.** Configural invariance was also found in Study 2 when the hypothesized model fit the data in the Top Bottom ($c^2(15) = 17.871, p = .270, CFI = .995, RMSEA = .035$) and Separate Pages ($c^2(15) = 29.784, p = .013, CFI = .973, RMSEA = .080$) groups without any model modification. For the sample of emerging adults in Study 2, the fit of the constrained model (Model 1) also indicated some mild misfit between the two groups (See Table 3). Again we used the Lagrange multiplier test and released significant constraints one at a time until the model fit well. As seen in Table 3, most of the constraints that were removed pertained to the correlated errors between mothers’ and fathers’ support factors and the mothers’ and fathers’ items, plus two error variances that were not equal. Just like in Study 1, in all cases the correlations between the
factors and the error variances were substantially smaller in the *Separate Pages* group compared to the *Top Bottom* group. Similar to Study 1, the correlation between the mother and father support factors was $r = .445$ in the *Separate Pages* format, but $r = .764$ for the *Top Bottom* format. However, unlike Study 1, the error variances did not show a consistent pattern between *Separate Pages* and *Top Bottom* groups. The other multigroup CFAs with the other parenting variables are available upon request.

Table 3
*Fit Indices and $\chi^2$ Difference Tests for Constraints in the Multigroup Model*

<table>
<thead>
<tr>
<th>Constraints between <em>Top Bottom</em> and <em>Separate Pages</em> formats</th>
<th>$\chi^2$</th>
<th>$\chi^2$ probability</th>
<th>$\chi^2$ difference</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Study 1: Latino Adolescents</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1</td>
<td>210.45</td>
<td>&lt;.001</td>
<td>51</td>
<td>.936</td>
<td>.103</td>
</tr>
<tr>
<td>Model 2 Correlation between E4 and E8</td>
<td>178.37</td>
<td>&lt;.001</td>
<td>50</td>
<td>.949</td>
<td>.094</td>
</tr>
<tr>
<td>Model 3 Correlation between E2 and E6</td>
<td>147.30</td>
<td>&lt;.001</td>
<td>49</td>
<td>.961</td>
<td>.083</td>
</tr>
<tr>
<td>Model 4 Correlation between mom support and dad support</td>
<td>117.68</td>
<td>&lt;.001</td>
<td>48</td>
<td>.972</td>
<td>.070</td>
</tr>
<tr>
<td>Model 5 Correlation between E1 and E5</td>
<td>97.18</td>
<td>&lt;.001</td>
<td>47</td>
<td>.980</td>
<td>.060</td>
</tr>
<tr>
<td>Model 6 Error variance for E4</td>
<td>90.67</td>
<td>&lt;.001</td>
<td>46</td>
<td>.982</td>
<td>.058</td>
</tr>
<tr>
<td><em>Study 2: Emerging Adults</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1</td>
<td>155.18</td>
<td>&lt;.001</td>
<td>51</td>
<td>.908</td>
<td>.115</td>
</tr>
<tr>
<td>Model 2 Correlation between mom support and dad support</td>
<td>132.08</td>
<td>&lt;.001</td>
<td>50</td>
<td>.927</td>
<td>.103</td>
</tr>
<tr>
<td>Model 3 Correlation between E3 and E7</td>
<td>116.10</td>
<td>&lt;.001</td>
<td>49</td>
<td>.941</td>
<td>.094</td>
</tr>
<tr>
<td>Model 4 Correlation between E1 and E5</td>
<td>101.58</td>
<td>&lt;.001</td>
<td>48</td>
<td>.953</td>
<td>.085</td>
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<tr>
<td>Model 5 Error variance for E3</td>
<td>89.88</td>
<td>&lt;.001</td>
<td>47</td>
<td>.962</td>
<td>.077</td>
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<tr>
<td>Model 6 Correlation between E2 and E6</td>
<td>80.13</td>
<td>&lt;.001</td>
<td>46</td>
<td>.970</td>
<td>.069</td>
</tr>
<tr>
<td>Model 7 Error variance for E1</td>
<td>75.14</td>
<td>=.003</td>
<td>45</td>
<td>.973</td>
<td>.066</td>
</tr>
</tbody>
</table>

**DISCUSSION**

In the current study, three different formats of a parenting questionnaire were examined to determine whether the strength of the correlation between responses about adolescents’ and emerging adults’ responses about fathers and mothers could be attributed to how the questions appear on the surveys. The present analyses demonstrated that when the items were asked in the *Top Bottom* and *Left Right* formats there were significantly higher correlations between responses about mothers and fathers (i.e., support, monitoring, psychological control) than when the items were asked in the *Separate Pages* format. In addition, multigroup confirmatory factor analyses comparing *Top Bottom* with *Separate Pages* format on fathers’ and mothers’ support found that in both studies the correlation between the mothers’ and fathers’ support factors was minimized using the *Separate Pages* format. Also, multigroup correlated errors between three of the four fathers’ and mothers’ support items were significantly reduced in the *Separate Pages* format even after controlling for the separate factors. Some of the discrepancy
between the findings in Study 1 and Study 2 may be the result of further methodological differences. Specifically, in Study 2 with emerging adults, the order of mothers’ and fathers’ items were alternated so that half the time mothers’ items were presented first, and half the time the fathers’ items were presented first. Also, differences may have emerged between responses based on the differences in the sample (i.e., Latino adolescents versus ethnically diverse emerging adults who were mostly female).

Several possibilities exist regarding why the format of the survey may be associated with variation in the results. First, shared-method effects are higher when the ratings about mothers and fathers are closer together on the questionnaire. It is possible that adolescents and emerging adults are hesitant to overtly compare the two parents, even when their responses are anonymous. In other words, in the Top Bottom and Left Right formats the participants are consciously aware of any discrepancy they note between mothers and fathers; and they may consciously or unconsciously respond similarly to keep from choosing one parent over the other unless there is a compelling reason to do so. On the other hand, participants would have to flip back and forth between pages on the Separate Pages format to keep from choosing one parent over another. Another possible explanation is that when participants are responding about fathers and mothers at the same time, they may be thinking of their overall family climate instead of each parent separately. Although the overall family climate and parenting behaviors may be related, conceptually these are distinct aspects of family dynamics (Whitchurch & Constantine, 1993). This explanation is supported by the confirmatory factor analysis results that showed that even after we controlled for correlated error (e.g., shared-methods related variance in the items), the support factors were still more related in the Top Bottom format than when the questions were asked on Separate Pages. Future studies are needed to expand on this study by including overall family environment measures to see if reports of parenting in the Top Bottom and Left Right formats correlate more strongly with family environment than the reports of parenting in the Separate Pages format. And finally, a third explanation is that when questions are on the same page it is leading to a simple response bias because it is easier and quicker to answer the same response about mothers and fathers in the Top Bottom and Left Right formats (especially in the Top Bottom format where participants can use one circle for both).

Regardless of the explanation, these findings have important implications for parenting researchers who examine how reports of maternal and paternal behaviors from adolescents and emerging adults relate to various outcomes. First, researchers need to be very explicit when describing how they measure reports of fathers’ and mothers’ behaviors (e.g., separate pages, same page [Top Bottom, Left Right]). Also, researchers who want to disentangle the effects of mothers and fathers (i.e., using dominance analyses, ridge regression, SEM, or HLM) should create their questionnaires where questions about mothers and fathers appear on different pages. This format allows for more distinction (i.e., less correlation) between fathers and mothers, which is important when including data about both parents in the same analyses (e.g., multicollinearity concerns). By asking questions on separate pages, it appears that youth and emerging adults’ reports of mother and father factors gain considerably greater independence, al-
following more elegant statistical analyses that might be more readily interpreted. Additionally, these findings suggest that social workers or therapists assessing youth reports of mothers and fathers might want to ask questions about one parent first, then ask the same questions about the other parent.

These findings also demonstrate that instrumentation considerations are important factors to be considered when conducting meta-analyses and thorough literature reviews, because the instrument layout may account for part of the variation in results that are found in reports about each parent. It is important to note that the Separate Pages format may result in less proportion of shared method variance than the other two formats, but there is still some unknown component of shared method variance even in the Separate Pages format.

Although these findings support the idea that survey format can influence the strength of association between reports of fathers’ and mothers’ behaviors, certain limitations should be acknowledged. First, the Latino adolescent sample was drawn from six different schools with varying percentages of Latinos in the schools. Latinos in these different schools in different geographic localities may perceive parents differently. However, across all contexts they were mostly second generation youth (i.e., native born with foreign born parents), residing in mostly lower class neighborhoods and of primarily Mexican origin (68%-77%) and Central American origin (18%-24%). Next, it was impossible to do any direct comparisons between Study 1 and Study 2 due to differing sample characteristics (e.g., gender ratio differing among samples, high school vs. university samples). Next, sources of shared method variance beyond the format of the questionnaire may also result in spurious correlations. And finally, generalizability of these findings to other age groups (e.g., younger children) awaits further research.

REFERENCES


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