

Early Gender Differences in Core Values Predict Anticipated Family Versus Career Orientation



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Abstract

Communion and agency are often described as core human values. In adults, these values predict gendered role preferences. Yet little work has examined the extent to which young boys and girls explicitly endorse communal and agentic values and whether early gender differences in values predict boys' and girls' different role expectations. In a sample of 411 children between the ages of 6 and 14 years, we found consistent gender differences in endorsement of communal and agentic values. Across this age range, boys endorsed communal values less and agentic values more than did girls. Moreover, gender differences in values partially accounted for boys' relatively lower family versus career orientation, predicting their orientation over and above gender identification and parent reports of children's gender expression. These findings suggest that gender differences in core values emerge surprisingly early in development and predict children's expectations well before they make decisions about adopting adult roles in their own families.

Keywords

childhood development, personal values, sex differences, gender roles, open data, open materials

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Two core values guide human behavior: communion (i.e., promotion of other people) and agency (i.e., self-promotion; Bakan, 1966). Pursuing communion is especially predictive of psychological health (Le, Impett, Kogan, Webster, & Cheng, 2013). Yet men value communion relatively less than do women (Donnelly & Twenge, 2017), a difference mirrored by men's lower family orientation and participation in communal careers (Croft, Schmader, & Block, 2015; Diekmann, Steinberg, Brown, Belanger, & Clark, 2017). Because men's lower communal engagement might negatively affect themselves as well as their families (Croft et al., 2015), it is important to understand the early development of gender differences in communal values and future role expectations. In the current study, we examined whether young boys explicitly devalue communion (and perhaps accentuate agency) in ways that relate to lower anticipated prioritization of family over career.

By the age of 6 years, boys expect to prioritize career over family (Croft, Schmader, Block, & Baron, 2014). Cognitive-development theory suggests that these

gender differences in anticipated roles might arise because children conform to gendered behavioral scripts that align with their gender identity (e.g., Kohlberg, 1966; Martin & Ruble, 2009). However, theoretically, gender identification (i.e., as feminine or masculine) and gender expression (i.e., exhibiting stereotypically feminine or masculine preferences; American Psychological Association Task Force on Gender Identity and Gender Variance, 2009) are related to, but distinct from, more fundamental communal and agentic values (Spence & Buckner, 2000). On the basis of goal-congruity theory (Diekmann et al., 2017), we expected that the internalization of values, more than gender identification or expression, would predict children's expectations of their future roles.

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According to goal-congruity theory, people seek out roles that afford their values. Adults self-segregate into different occupations not only to conform to gendered expectations but also because of the different values that men and women have internalized (Diekmann et al., 2017). If these values are internalized early, they could shape how children imagine their future. Whereas no research has directly examined children's endorsement of core values, children's preferences provide indirect evidence. Girls, more than boys, want to connect rather than compete in friendships (Ojanen, Grönroos, & Salmivalli, 2005), and girls value altruism rather than status in careers (Weisgram, Bigler, & Liben, 2010).

The current research examined gender differences in core values and their relationship to family versus career orientation in a large sample of children. We hypothesized that boys endorse communal values less than do girls (Hypothesis 1a). We had no predictions for agentic values, given mixed evidence in adults (Croson & Gneezy, 2009; Diekmann et al., 2017). We also hypothesized that boys (relative to girls) anticipate less future family orientation than future career orientation (Hypothesis 1b). To the degree that values are distinct from gender identity and expression but important for role preferences, they should explain unique variance in children's family versus career orientation. We thus hypothesized that gender differences in communal (and perhaps agentic) values mediate boys' relatively lower family versus career orientation, over and above explicit and implicit gender identification (Hypothesis 2a) and gender expression (Hypothesis 2b). Additionally, we explored the developmental trajectory of these relationships from childhood and early adolescence.

Method

Participants and procedure

Our final sample consisted of 411 children (216 boys, 195 girls) between the ages of 6 and 14 years ($M = 9.84$ years, $SD = 2.23$), who were recruited from a community science center. We excluded 41 participants because of experimenter error ($n = 12$), incomplete data ($n = 9$), or technical issues ($n = 20$). We aimed to recruit at least 25 usable participants per age (in years) and gender (target $n = 400$), given the feasibility of recruiting children from the science center. Participants were predominantly Caucasian (54.5%) or East Asian (17.8%) but also identified as South Asian (6.6%), Aboriginal/Canadian First Nation (4.6%), Middle Eastern (1.5%), mixed race (10.5%), Black (0.5%), or outside of the race categories provided (2.7%). Each participant was tested individually in a soundproof room by one of four research assistants (one man, three women; research

assistant gender did not moderate the results; see the Supplemental Material available online), who read all instructions aloud to participants. Participants completed measures of implicit and explicit gender identification and their own values. They also answered open-ended questions about their occupational interests and made ratings of their family versus career orientation. The open-ended responses to the question, "What do you want to be when you grow up?" (missing data for 85 children) were coded for gender stereotypicality and goal affordances. Because these coded variables were unrelated to other variables in the study (for details, see the Supplemental Material), they are not discussed further. In addition, for 392 children, a parent completed other demographics and rated his or her child's gender expression as masculine or feminine. A full list of measures can be found in the Supplemental Material.

Measures

Communal and agentic values. For the purposes of this study, we developed a child-friendly scale of communal and agentic value orientation by adapting items used in adult samples (Diekmann et al., 2017; Trapnell & Paulhus, 2012). We first explained to children that "some things are important to some people but not at all important to other people. I want you to tell me how important these things are to YOU!" Children were then asked to rate the personal importance of four communal values ("How important do YOU think it is to always help others, even if it takes effort?" "How important do YOU think it is to do things together with others?" "How important do YOU think it is to be kind to others?" "How important do YOU think it is to think about others' feelings?" $\alpha = .65$) and three agentic values ("How important do YOU think it is to be the one who gets to make decisions?" "How important do YOU think it is to win?" "How important do YOU think it is to be good at things?" $\alpha = .68$) on a 5-point scale ranging from 1 (*not very important*) to 5 (*super important*). A fourth agentic value, "doing things all by yourself," was not highly related to other items (item-total correlation $< .25$) and was thus excluded from the measure. Submitting the remaining seven items to an exploratory maximum likelihood factor analysis with direct oblimin rotation revealed that communal and agentic items loaded on two distinct primary factors with minimal cross-loading (see the analyses in the Supplemental Material). Children's reports of communal and agentic values were weakly but significantly negatively correlated ($r = -.18$, $p < .001$). An example item can be seen in the Appendix.

Family versus career orientation. To assess children's expected family versus career orientation for adulthood, we had children rate two items taken from Croft et al.

(2014). For each of the two items, children saw two individuals (matched to participant gender and similar to each other in the physical appearance of skin color, haircut, hair color, and facial features). These individuals were described as childhood friends who grew up to have different priorities as adults. For each of the two pairs, one target was described as family oriented and one was described as career oriented. After being read each description, participants were asked, "Someday you will also be all grown up. When you are grown up, who do you think you will be more like?" Participants indicated to whom they thought they would be more similar on a 5-point scale from 1 (*a lot similar to [name of career-oriented exemplar]*) to 5 (*a lot similar to [name of family-oriented exemplar]*), in which options were represented as dots of different sizes. Responses to these two items ($r = .34, p < .001$) were averaged to represent an index of children's family versus career orientation. See the Supplemental Material for a depiction of the measure.

Implicit gender identification. The extent to which children implicitly identified as female versus male was measured with a child-friendly Implicit Association Test (IAT; Baron & Banaji, 2006). The IAT has been used and validated as a measure of implicit gender identity in children as young as 6 years old (e.g., Cvencek, Meltzoff, & Greenwald, 2011). The IAT assesses the strength of associations between concepts by measuring participants' reaction times to categorize word and picture stimuli into congruent versus incongruent categories (e.g., self + girl vs. self + boy). Initially, participants completed separate practice blocks to familiarize themselves with the identity stimuli delivered auditorily (self = "I," "me," "my," "myself" vs. other = "they," "them," "their," "themselves"; Dunham, Baron, & Banaji, 2007) and gender stimuli delivered visually (pictures of boys and girls; see the Supplemental Material for all stimuli used). Each practice block consisted of 12 trials in which participants had to decide (using one of two large response buttons) whether a word they heard or picture they saw belonged to the category shown on the left or right.

After finishing two practice blocks, participants completed two critical test blocks (40 trials each, in counterbalanced order) requiring them to categorize stimuli from both self and gender categories simultaneously. In one block, category pairings congruent with a female identity, that is, *self* and *girl* (vs. *other* and *boy*), were mapped onto the same response button. In the other block, category pairings congruent with a male identity, that is, *self* and *boy* (vs. *other* and *girl*), were mapped onto the same response button. Following scripts from Baron and Banaji (2006), we computed *d* scores to represent strength of implicit female (vs. male) identification. This scoring allowed gender identification to

positively correlate with other variables that were also coded so that higher numbers equaled more feminine or female. In analyses using this measure, we followed recent general recommendations (Nosek, Bar-Anan, Sriram, Axt, & Greenwald, 2014) to exclude participants with more than 10% of responses faster than 300 ms or with more than 30% errors on this task (19 participants, 4.6% of total sample).

Explicit gender identification. Four questions were designed to assess the extent to which children explicitly identified with other females versus males. For each of these four questions, participants were presented with clip-art depictions of one boy and one girl, matched to each other in ethnicity (e.g., "Sarah and David"), and then prompted, "I want you to tell me who you are more like." Participants made their ratings on a 5-point scale that asked, "Are you . . . *a lot more like X* (1), *a little more like X* (2), *in the middle between X and Y* (3), *a little more like Y* (4), or *a lot more like Y* (5)?" In two of the four pairs, the female character was presented on the right (corresponding to a rating of 5), and in the other two, the male character was presented on the right. To approximate ethnic representation in the sample community, we assigned two boy-girl pairs to appear Caucasian, one pair to appear East Asian, and one pair to appear medium dark-skinned (meant to be interpretable as South Asian or Latino). Ethnicity was thus never confounded with target gender, and a composite score of all four items was reliable ($\alpha = .89$).

However, to avoid contaminating scores with children's ethnic identity, we followed the recommendation of an anonymous reviewer and operationalized gender identification as the responses made only to the items that matched the participant's own parent-reported ethnicity (i.e., a Caucasian participant's score is the average of two Caucasian items, an East Asian participant's score is the rating of the East Asian item, a Black/Hispanic/South Asian participant's score is the score on the medium dark-skinned item, and the full four-item composite was used for children of mixed or nonreported ethnicity). This ethnicity-matched coding of explicit female identification correlated highly with the four-item composite ($r = .94, p < .001$), and results are the same with either measure (see the Supplemental Material for these analyses and all stimuli). Scores were coded so that higher numbers represented greater identification with females (vs. males).

Parent-reported gender expression. To assess the extent to which children currently exhibited feminine versus masculine gender expressions, we asked parents to complete a 12-item measure (Johnson et al., 2004) assessing the frequency with which their child showed a number of

Table 1. Bivariate Correlations and Descriptive Statistics for All Variables

Variable	Boys (<i>M</i>)	Girls (<i>M</i>)	Correlations						
			1	2	3	4	5	6	7
1. Age	9.98 _a (2.29)	9.69 _a (2.17)	—	-.15*	-.06	-.12	-.37*	.08	.12 [†]
2. Communal values (1–5)	4.38 _a (0.59)	4.52 _b (0.48)	-.13 [†]	—	-.03	.15*	.19*	.03	.13 [†]
3. Agentic values (1–5)	2.77 _a (1.00)	2.48 _b (0.99)	.08	-.27*	—	-.09	.07	-.01	.12
4. Family orientation (1–5)	3.05 _a (0.94)	3.38 _b (0.87)	-.05	.18*	-.21*	—	.03	-.03	-.10
5. Gender expression (<i>z</i> score)	-0.63 _a (0.33)	0.67 _b (0.38)	.06	-.08	-.09	.12 [†]	—	.001	.12
6. Implicit female identification	-0.22 _a (0.39)	0.27 _b (0.38)	-.11	.08	.05	-.05	-.04	—	-.07
7. Explicit female identification	2.05 _a (0.85)	4.01 _b (0.67)	-.19*	-.001	-.01	.04	.21*	.03	—

Note: Correlations for boys are presented below the diagonal, and correlations for girls are presented above the diagonal. Standard deviations for means are given in parentheses. Within a row, means with different subscripts are significantly different.

* $p < .05$. [†] $p \leq .10$.

gendered behaviors and preferences (e.g., “He/She plays with girl-type dolls, such as Barbie”). Parents also completed two face-valid items rating how (a) feminine and (b) masculine they perceived their child to be compared with other children of the same age. Because these latter two items were highly related to the 12-item questionnaire (item-total correlations $r > .74$), we standardized all 14 items and averaged the standardized responses into an overall index of parent-reported gender expression. Higher scores on this measure indicated more feminine versus masculine gender expression. See Table 1 for means and correlations for all key variables.

Results

Gender and age differences

We first examined gender differences in our focal variables (communal values, agentic values, and family vs. career orientation; Hypotheses 1a and 1b). To control for age variation within our sample and explore the possible developmental trajectory of boys’ and girls’ value endorsement, we also included age as a moderator in these analyses. To examine gender and age effects, we entered children’s gender (male = 0, female = 1) and age (standardized) as predictors in Step 1 and their interaction in Step 2 of a hierarchical linear regression model for each outcome.

Value orientation. On average, older children endorsed communal values less than did younger children, $\beta = -0.14$, $SE = 0.03$, $t(406) = -2.85$, $p = .005$, whereas age did not predict agentic values, $\beta = 0.01$, $SE = 0.05$, $t(406) = 0.25$, $p = .803$. Over and above these effects of age, and as predicted, boys endorsed communal values significantly less than did girls, $\beta = 0.12$, $SE = 0.05$, $t(406) = 2.43$, $p = .015$. Boys also endorsed agentic values significantly more than did girls, $\beta = -0.14$, $SE = 0.10$, $t(406) = -2.93$,

$p = .004$. There were no significant interactions between gender and age in predicting values, $\beta_s < 0.10$, $p_s > .16$, suggesting that the observed gender differences in values varied little within the age range of our sample. Thus, results suggest that gender differences in children’s core values emerge by the age of 6 years and parallel gender differences in valued careers in children (Weisgram et al., 2010). In addition, values reported by children resemble patterns of values in adults, with communal value endorsement being generally high but higher for women than for men (e.g., Diekmann et al., 2017).

Family versus career orientation. We next examined gender differences in children’s role orientation. In line with Hypothesis 1b and replicating the results of Croft et al. (2014), boys (compared with girls) expected to be less family oriented, $\beta = 0.18$, $SE = 0.09$, $t(394) = 3.53$, $p < .001$. Neither age, $\beta = -0.08$, $SE = 0.05$, $t(394) = -1.61$, $p = .108$, nor the age-by-gender interaction, $\beta = -0.04$, $SE = 0.09$, $t(393) = -0.58$, $p = .564$, predicted children’s family versus career orientation. These results suggest that by the time children are 6 years old, we can clearly observe gender differences in values as well as family versus career orientation.

Do gender differences in values explain expected family versus career orientation?

Having established an early gender difference in core values, we next tested these gender differences as mediators of gender differences in seeing one’s future as more family oriented rather than career oriented. To test this, we conducted mediational analyses with the PROCESS macro (Hayes, 2013; 10,000 resamples for bootstrapped confidence intervals, or CIs), entering gender as a predictor and communal and agentic values

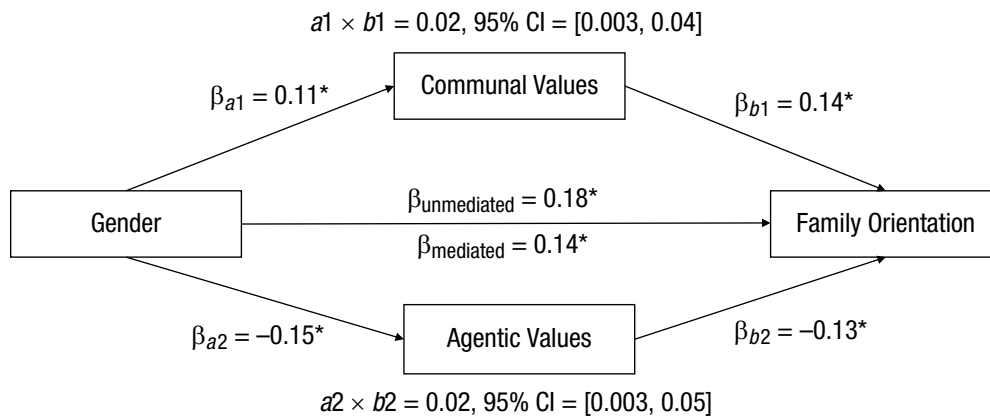


Fig. 1. Model showing how communal and agentic values mediate the relationship between gender (boys = 0, girls = 1) and family (vs. career) orientation, as mediated by communal and agentic values. Analyses included 399 children; additional children were excluded for missing data. Asterisks indicate significant paths ($p < .05$). CI = confidence interval.

as simultaneous mediators, predicting children's family versus career orientation (all standardized; see Fig. 1). As hypothesized, expecting a family-oriented rather than a career-oriented future was predicted by both higher communal values, $\beta = 0.14$, $SE = 0.05$, $t(395) = 2.81$, $p = .005$, and lower agentic values, $\beta = -0.13$, $SE = 0.05$, $t(395) = -2.56$, $p = .011$, even after we controlled for gender. In addition, significant indirect effects were consistent with boys' lower communal values, indirect effect = 0.02, 95% CI = [0.003, 0.04], $p < .05$, and higher agentic values, indirect effect = 0.02, 95% CI = [0.003, 0.05], $p < .05$, accounting, at least in part, for their relatively low family versus career orientation, compared with girls'. These indirect relationships suggest that gender differences in both communal and agentic values partly account for gender differences in family versus career orientation. These results held when we controlled for both participant age and research assistant gender, and paths were not moderated by age. For more information about these as well as mediation analyses on younger versus older children, refer to the Supplemental Material.

Next, we examined whether our results could be accounted for simply by the extent to which children implicitly or explicitly identified as female (vs. male) or the extent to which children currently displayed feminine versus masculine gender expression. Either might suggest that children's tendency toward identifying as female or male or outwardly expressing feminine or masculine behaviors and preferences, and not their endorsement of communal values (constructs that are distinct; Spence & Buckner, 2000), better predicts future role expectations.

First, to better understand these variables in our data set, we tested for gender and age effects on all variables

using linear regression analyses with children's gender (male = 0, female = 1) and age (standardized) as predictors in Step 1 and their interaction in Step 2 for each outcome. As we expected on the basis of past research (Cvencek et al., 2011), results showed that girls implicitly identified more as girls than did boys, $\beta = 0.54$, $SE = 0.04$, $t(387) = 12.47$, $p < .001$, suggesting that implicit gender identification corresponded sensibly to children's binary gender identity. Neither age, $\beta = -0.02$, $SE = 0.02$, $t(387) = -0.34$, $p = .733$, nor the age-by-gender interaction, $\beta = 0.11$, $SE = 0.04$, $t(386) = 1.87$, $p = .062$, significantly predicted implicit gender identification.

Similarly, results showed a large gender difference in explicit female identification: Girls explicitly identified more strongly with females than did boys, $\beta = 0.78$, $SE = 0.08$, $t(406) = 25.47$, $p < .001$. Although we observed no main effect of age, $\beta = -0.04$, $SE = 0.04$, $t(406) = -1.33$, $p = .184$, the main effect of gender was qualified by a significant age-by-gender interaction, $\beta = 0.13$, $SE = 0.06$, $t(405) = 3.23$, $p = .001$. Decomposing this interaction suggested that the tendency to explicitly identify with girls more than with boys did not significantly increase with age for girls, $\beta = 0.07$, $SE = 0.06$, $t(405) = 1.49$, $p = .137$, but significantly decreased with age among boys, $\beta = -0.13$, $SE = 0.05$, $t(405) = -3.16$, $p = .002$.

We next examined how parents' reports of their children's gender expression differed between boys and girls. Results suggest that our sample showed substantial gender differences in gender expression, with boys' gender expression being rated as less feminine (more masculine) by their parents than girls' gender expression, $\beta = 0.87$, $SE = 0.04$, $t(379) = 35.79$, $p < .001$. Notably, gender and age interacted significantly when

predicting parent-rated gender expression, $\beta = -0.18$, $SE = 0.04$, $t(378) = -5.57$, $p < .001$. Decomposing this interaction suggested that, for girls, $\beta = -0.23$, $SE = 0.03$, $t(378) = -6.53$, $p < .001$, but not for boys, $\beta = 0.04$, $SE = 0.02$, $t(378) = 1.13$, $p = .260$, increasing age was associated with less feminine (more masculine) gender expression, suggesting that girls express fewer uniquely feminine behaviors as they age, whereas boys tend to express relatively more masculine behaviors at all ages examined.

Do values predict family orientation over and above identification and expression?

Given the significant gender differences in gender identification and parents' reports of children's gender expression, it is possible that the relationship between values and family versus career orientation is simply a reflection of children's explicit or implicit gender identity (Hypothesis 2a) or gender expression (Hypothesis 2b). To rule out these alternative explanations, we repeated the above mediational analyses 2 times to test (a) the extent to which children implicitly and explicitly identified as female versus male and (b) the extent to which children showed a feminine versus masculine gender expression, as control variables (z -scored) in the relationship between values and orientation (b path). These analyses were done separately for gender identification and gender expression to preserve degrees of freedom, because some children were excluded on the basis of IAT error rates, and a different subsample of children was excluded because their parents did not complete their questionnaire.

Results of analyses controlling for children's implicit and explicit gender identification (Hypothesis 2a) revealed neither explicit identification as female versus male, $\beta = -0.08$, $SE = 0.08$, $t(374) = -1.02$, $p = .307$, nor implicit identification as female versus male, $\beta = -0.04$, $SE = 0.06$, $t(374) = -0.63$, $p = .527$, significantly predicting children's family versus career orientation (over and above dichotomous gender and values). Importantly, both communal values, $\beta = 0.13$, $SE = 0.05$, $t(374) = 2.45$, $p = .015$, and agentic values, $\beta = -0.11$, $SE = 0.05$, $t(374) = -2.24$, $p = .025$, remained significant predictors of family versus career orientation when we controlled for these two gender-identification variables. Moreover, the indirect effects of child gender on family versus career orientation through communal values, indirect effect = 0.01, $SE = 0.01$, 95% CI = [0.002, 0.04], and agentic values, indirect effect = 0.02, $SE = 0.01$, 95% CI = [0.001, 0.05], also remained significant, although small.

Finally, results of parallel analyses that controlled for gender expression (Hypothesis 2b) revealed that this measure did not significantly predict children's family versus career orientation, $\beta = 0.14$, $SE = 0.11$, $t(367) = 1.30$, $p = .196$. Importantly, both communal values, $\beta = 0.12$, $SE = 0.05$, $t(367) = 2.25$, $p = .025$, and agentic values, $\beta = -0.12$, $SE = 0.05$, $t(367) = -2.30$, $p = .022$, remained significant predictors of future family versus career orientation when gender expression was added into the model. Moreover, the indirect effects of gender on future family versus career orientation through communal values, indirect effect = 0.01, $SE = 0.01$, 95% CI = [0.001, 0.04], and agentic values, indirect effect = 0.02, $SE = 0.01$, 95% CI = [0.001, 0.05], also remained significant. Thus, we found no evidence that either children's current identification as female (vs. male) or their current gender expression (as rated by their parents) was a better explanation for their expected future selves than were their own values.

General Discussion

In adults, communal and agentic values are important predictors of gender roles. Little research has investigated these values in children. Our results indicate that, by the age of 6 years, boys show lower communal and higher agentic values than do girls. Over and above children's gender identification and expression, valuing communion less and agency more predicted boys' relatively lower family versus career orientation. Although effect sizes were modest, effects could have cumulatively meaningful consequences for children's aspirations over development. Correlational designs preclude causal inference. However, this evidence is consistent with our hypothesis that values relate to children's orientation well before children confront the realities of balancing family and career.

There was no evidence that effects were moderated by age. Further research is needed to (a) understand how, and how early, communal and agentic values are internalized; (b) assess their causal impact with prospective or experimental designs; and (c) identify effects on actual behavioral outcomes. Moreover, studies should examine effects alongside non-binary conceptions of gender identity (Martin, Andrews, England, Zosuls, & Ruble, 2017). Societal gender disparities in childcare and housework are pressing issues (Croft et al., 2015). Our data underscore the importance of understanding the early development of core values and how they might set the stage for gendered expectations about career and family for adulthood.

Appendix

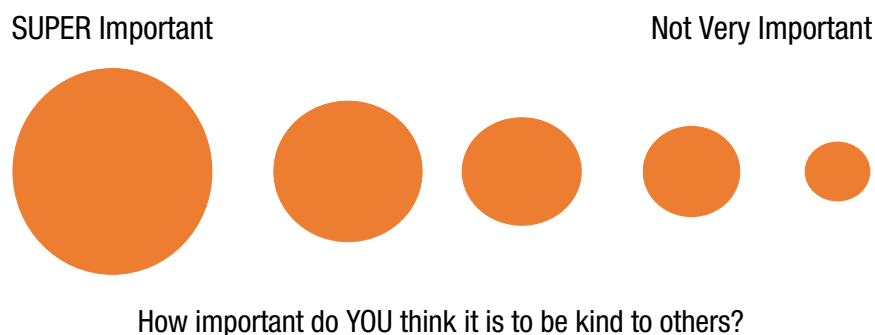


Fig. A1. One of the communal-values questions and the associated rating scale, as shown to participants.

Action Editor

Erika E. Forbes served as action editor for this article.

Author Contributions

All the authors contributed to the development of the questions and study design. K. Block supervised data collection, analyzed the data, and prepared the manuscript under the supervision of A. S. Baron and T. Schmader. All the authors provided critical feedback and edits to drafts of the manuscript and approved the final version for submission.

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Declaration of Conflicting Interests

The author(s) declared that there were no conflicts of interest with respect to the authorship or the publication of this article.

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Supplemental Material

Additional supporting information can be found at <http://journals.sagepub.com/doi/suppl/10.1177/0956797618776942>

Open Practices



All data and materials have been made publicly available via the Open Science Framework and can be accessed at <https://osf.io/fc8yt/>.

The complete Open Practices Disclosure for this article can be found at <http://journals.sagepub.com/doi/suppl/10.1177/0956797618776942>. This article has received the badges for Open Data and Open Materials. More information about the Open Practices badges can be found at <http://www.psychologicalscience.org/publications/badges>.

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