

How do emerging adults respond to exercise advice from parents? A test of advice response theory

Journal of Social and
Personal Relationships
1–25

© The Author(s) 2016

Reprints and permissions:

sagepub.co.uk/journalsPermissions.nav

DOI: 10.1177/0265407516662920

spr.sagepub.com



Lisa M. Guntzviller¹, Chelsea L. Ratcliff²,
Travis E. Dorsch³, and Keith V. Osai³

Abstract

Advice response theory (ART) proposes advisor characteristics, advice politeness, and advice content impact recipient perceptions of advice quality, their intention to implement the advice, and their coping. However, ART has primarily been examined in friend-to-friend advising on academic, romantic, or social issues. To test ART in an understudied relational and topical context, emerging adults ($N = 196$, aged 18–28 years) were surveyed about physical activity or exercise advice they received from a parent. Current findings supported propositions about advisor characteristics and politeness, and parent–child relational elements were particularly salient. Emerging adults satisfied with their parent–child relationship rated all advice features and outcomes more favorably, and participants who reported their parents conveyed that the participant was approved of, competent, and likeable rated all outcomes more favorably. Counter to ART predictions, emerging adults displayed psychological reactance to certain message content features, responding favorably to advice they perceived to propose an efficacious solution but reacting negatively to advice perceived to emphasize their capability of performing the action and the lack of drawbacks in doing so (especially when feelings of obligation were high). ART propositions about advisor characteristics and politeness may hold across advice situations, but the

¹ University of Illinois at Urbana-Champaign, USA

² University of Utah, USA

³ Utah State University, USA

Corresponding author:

Lisa M. Guntzviller, Department of Communication, University of Illinois at Urbana-Champaign, 3001 Lincoln Hall, 702 S. Wright St., Urbana, IL 61801, USA.

Email: lguntzviller@gmail.com

parent–child dynamic during emerging adulthood and inherent face threat for health influence attempts may explain why certain formulations of advice messages elicited responses inconsistent with ART.

Keywords

Advice, communication, decision-making, emerging adulthood, exercise, parent–child relationship, physical activity, social support

Emerging adulthood encompasses the transition from adolescence to adulthood, and is a critical stage in human development in which parent–child communication may increase in quality and impact emerging adult well-being and development (Arnett, 2015; Willoughby & Arnett, 2012). Advice—or recommendations about what to say, do, or think (MacGeorge, Feng, Butler, & Budarz, 2004)—is a ubiquitous form of informational support in relationships (MacGeorge, Feng, & Burleson, 2011). Parents frequently give advice to emerging adult children on a range of topics (Carlson, 2014, 2016). When advice is evaluated positively, it can provide helpful information, reduce distress, and increase the recipient's intention to implement the advice (see MacGeorge, Feng, & Guntzville, 2016, for a review). Parental advice to emerging adult children has the potential to provide useful insight to problems and assist with emotional and problem-solving coping (Carlson, 2014; Goldsmith & Fitch, 1997; Thompson & O'Hair, 2008). However, recipients of parental advice may view the advice as inappropriate, disrespectful of the recipient's autonomy, or overstepping relational boundaries (Goldsmith, 2004; MacGeorge, Feng, & Thompson, 2008). Negatively evaluated advice or advice deemed relationally inappropriate may be rejected, which limits helpfulness in problem-solving and potentially impairs emotional coping with regard to the problem (Goldsmith, 2004; MacGeorge et al., 2008; Thompson & O'Hair, 2008). Scholars of emerging adult research have called for deeper investigation of how parent–child communication influences emerging adult behaviors (Willoughby & Arnett, 2012). Although research is lacking in this context, advice researchers note the potential relational implications of advice-giving interactions and that advice responses are situated within the relationship and relational history (MacGeorge, Feng, et al., 2016).

The quality of parental advice to emerging adults may be particularly influential or outcome volatile when related to health behaviors, including physical activity (PA) and exercise (Hadley, McCullough, Rancourt, Barker, & Jelalian, 2014). Adequate PA and exercise has been shown to improve adult fitness and reduce the risk of diseases such as obesity, cardiovascular disease, diabetes, and certain cancers (Bauman, 2004). Yet, at present, less than 20% of adults aged 18 years and older meet PA recommendations (U.S. Department of Health and Human Services, 2013). As emerging adults leave home—typically from the age of 18 through the 20s—they encounter new social environments and new barriers to maintaining a healthy lifestyle (Lau, Quadrel, & Hartman, 1990; Nelson, Story, Larson, Neumark-Sztainer, & Lytle, 2008). Studies show a sizeable shift in students' health behaviors after the transition from high school to college, with exercise habits often deteriorating (Lau et al., 1990;

Wallace, Buckworth, Kirby, & Sherman, 2000), especially as students discontinue participation in high school sports (Kilpatrick, Hebert, & Bartholomew, 2005). Because health behaviors are difficult to change, unhealthy PA habits may carry into adulthood unless assistance is provided to help young adults create and maintain an active lifestyle (Lau et al., 1990). Parental encouragement and attitudes toward PA can influence youth PA (Edwardson & Gorely, 2010).

Scholars have called for exploration of how family-based social support influences child PA (Kahn et al., 2002). Parental impact on child behaviors continues into emerging adulthood (Carlson, 2014; Lau et al., 1990) and can be stronger than peer influence over these behaviors (Lau et al., 1990), especially for female adolescents (Wallace et al., 2000). Various types of parental support, such as joint parent-child PA participation or financial support, have been linked to children's PA outcomes (Beets, Cardinal, & Alderman, 2010; Kilpatrick et al., 2005; Wallace et al., 2000). However, less is known about how children respond to parent PA informational support, such as advice. Parental advice is more frequently given to older children and increases when tangible support lessens (Beets et al., 2010). How parents formulate advice messages about PA drives emerging adults' response to advice (Dailey, Thompson, & Romo, 2014). Youth report being especially receptive to guidance from parents about setting PA goals, but only when the guidance is perceived as positive rather than critical or nagging (Borra, Kelly, Shirreffs, Neville, & Geiger, 2003; Lau et al., 1990). For example, negative messages such as criticism and teasing, along with perceived lack of caring on the part of the parent, have been associated with reduced motivation to practice healthy weight control behaviors (Ackard, Neumark-Sztainer, Story, & Perry, 2006; O'Dea, 2005). Scholars, including Beets, Cardinal, and Alderman (2010), have called for research on parental advice about PA and how the advice impacts child willingness to engage in the advised PA behaviors.

In the current study, we test and extend advice response theory (ART) by examining 196 emerging adults' (18–28 years old) responses to parental advice about PA. ART posits that emerging adult evaluations of the content of the advice, manner in which advice is given, and characteristics of the advisor will influence the emerging adult's advice quality ratings, willingness to implement the advice, and coping (Feng & MacGeorge, 2010; MacGeorge et al., 2004). Along with testing ART propositions in a novel relational and topical context, we extend ART by examining how feelings of obligation to follow parental advice may moderate the association between emerging adult message evaluations and advice outcomes. Understanding the parent-child dynamics in PA-related advice interactions has theoretical and practical value for how parents should communicate to their emerging adult children about PA.

ART and parental advice

ART predicts that recipient evaluations of advisor characteristics and the advice message will influence recipient responses to advice. Specifically, ART claims that recipient evaluations of the advisor and of the advice message's politeness and content drive several outcomes: recipient judgments of advice quality, willingness to follow the advice, and recipient coping (Feng & Feng, 2013; Feng & MacGeorge, 2010; Guntzviller

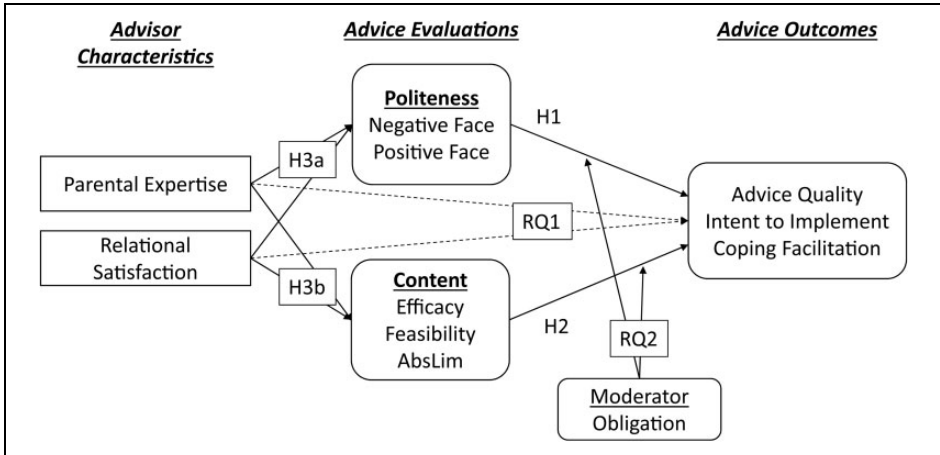


Figure 1. Hypothesized model for advice outcomes. Correlations and covariates not pictured for parsimony.

& MacGeorge, 2013; MacGeorge et al., 2004; MacGeorge, Guntzville, Hanasono, & Feng, 2016). Researchers are particularly interested in understanding the features of parent advice messages and interactions that increase advice positive perceptions and willingness to implement advised healthy PA behaviors (Beets et al., 2010; Kahn et al., 2002). Although emerging adult perceptions of advice quality and implementation of PA advice have obvious health implications, advice coping facilitation is also salient, as emerging adults may associate PA discussions with weight and body image issues (Anderson, Cornacchione, & Maloney, 2013). Parents can strongly influence adolescent feelings about their body image (Rodgers & Chabrol, 2009) and their self-efficacy in PA domains (Trost et al., 2003), indicating that parental advice about PA might have implications for both problem-focused and emotional-focused coping in this context (Trost et al., 2003).

Message evaluations of politeness and content may associate with all advice outcomes (Feng & MacGeorge, 2010; MacGeorge et al., 2004). However, ART proposes that message evaluations of advice politeness may link more strongly to recipient coping, whereas advice content more strongly facilitates intention to implement the advice, given that the former addresses emotional and identity issues, and the latter aligns more closely with problem-solving behaviors and outcomes (MacGeorge, Guntzville, et al., 2016).

ART proposes that advisor characteristics largely influence advice outcomes through their impact on message evaluations. Recipients' positive perceptions of advisors increase persuasiveness and positive evaluations of advice messages, which lead to more favorable advice outcomes (MacGeorge et al., 2016). However, whether advisor characteristic influence is completely mediated through message evaluations or has direct effects on advice outcomes has varied in past research (Feng & MacGeorge, 2010; MacGeorge et al., 2016). ART propositions applied to parental PA advice are displayed in Figure 1, and each hypothesis is discussed within the context of parent-child relationships and PA advice.

Politeness. Advice messages have the potential to increase emotional coping and problem-solving but may be detrimental when interpreted as face-threatening (Burke & Segrin, 2014; Goldsmith, 2004). *Advice politeness*—the style of advice delivery, specifically whether the message attends to a recipient’s face, or social identity (Brown & Levinson, 1987)—has been linked to recipient rating of advice quality, willingness to implement the advice, and ability to cope with the problem (Feng & MacGeorge, 2010; MacGeorge et al., 2004; MacGeorge et al., 2016). Giving advice can help solve a recipient’s problem or conversely may be interpreted as butting in or imposing on recipient autonomy (Goldsmith & Fitch, 1997). Advice on PA can be a particularly sensitive issue when connected with health and weight loss efforts, and although individuals may respond well to PA advice framed as suggestions, commands or directives may elicit negative responses (Beck, Daughtridge, & Sloane, 2002; Burke & Segrin, 2014). The theory of psychological reactance notes that messages perceived as threatening one’s freedom are likely to provoke adverse reactions and rejection of the message (Brehm, 1976), indicating that advice message politeness is crucial for recipient response.

Advice message politeness encompasses negative and positive facework. *Negative facework* mitigates face threat by conveying respect for recipient autonomy in deciding the best course of action (Brown & Levinson, 1987). Emerging adults want to establish themselves as independent adults, thus negative facework could be essential in facilitating favorable advice ratings (Carlson, 2014). *Positive facework* mitigates face threat by conveying that the recipient is approved of, competent, and likeable (Brown & Levinson, 1987). An emerging adult may interpret parental PA or weight-related advice as indicating a lack of parental acceptance of his or her appearance (Dailey, Romo, & McCracken, 2010), making positive facework particularly salient to PA advice topics. Advice messages sensitive to face threat can help to facilitate coping and perceptions of advice (MacGeorge et al., 2016), and politeness has been a strong predictor of all recipient advice outcomes (e.g., Feng & MacGeorge, 2010; MacGeorge et al., 2004). Both negative and positive facework may be important to consider for parent–child relationships and PA topics (Lim & Bowers, 1991). Thus, the following hypothesis is proposed:

Hypothesis 1: Higher emerging adult ratings of advice politeness (i.e., negative facework and positive facework) will associate with higher overall advice outcome ratings (i.e., advice quality, implementation intention, and facilitation of coping).

Message content. ART states that recipient evaluations of the advised action and the content of the advice message will influence how recipients view the advice (Feng & Burleson, 2008). According to ART, emerging adults may evaluate parental advice message content in terms of *efficacy* (the effectiveness of the advised action), *feasibility* (whether the recipient can do the advised action), and *absence of limitations* (minimal risks or drawbacks to performing the action; MacGeorge et al., 2008). In previous studies, advice messages with higher ratings of efficacy, feasibility, and absence of limitations led to higher ratings of advice quality, better facilitated coping, and were more likely to motivate recipients to implement the advice (Feng & Burleson, 2008; Feng & Feng, 2013; MacGeorge et al., 2016). Parental persuasion attempts are more likely to be successful

when parents provide rationale for their behavior requests (Wilson, Guntzviller, & Munz, 2012), and, accordingly, emerging adults who received efficacious advice from parents were more likely to implement the advice (Carlson, 2016). Thus, an attempt to convince an emerging adult child to start a regular exercise routine or to stop exercising when injured may be more favorably received when the advice recipient rates the advice message as higher on each of the three message content characteristics.

Hypothesis 2: Higher emerging adult ratings of message content (i.e., efficacy, feasibility, and absence of limitations) will associate with higher overall advice outcome ratings (i.e., advice quality, implementation intention, and facilitation of coping).

Advisor characteristics. ART posits that advisor characteristics will influence message evaluations of content and politeness (Feng & MacGeorge, 2010; MacGeorge et al., 2016). Specifically, higher recipient ratings of relevant advisor traits, such as expertise and relational closeness (MacGeorge et al., 2008), make advisors more persuasive and thus lead to better recipient message evaluations (Bonaccio & Dalal, 2006). Advisor characteristics also can impact advice outcomes directly (e.g., Feng & MacGeorge, 2010) or indirectly through their effect on message evaluations (MacGeorge et al., 2016), although tests of ART principally support the latter (MacGeorge et al., 2016).

The current study examines emerging adult ratings of parental expertise and parent–child relationship satisfaction as advisor characteristics. Advice recipients favorably perceive advisor expertise (Bonaccio & Dalal, 2006). Parental expertise increases adolescent willingness to follow parent directives (Guilamo-Ramos, Jaccard, Dittus, & Bouris, 2006), and emerging adults may implement parental advice because they consider their parents to be experts or have more life experience (Carlson, 2014). Although many former ART studies have examined liking, similarity, and trust along with expertise (e.g., Feng & Feng, 2013), greater liking, similarity, and trust ratings are indicative of closer relationships, and advisor–advisee relationship closeness can also function as a measure of source characteristics (MacGeorge et al., 2008). Research is needed that provides insight into how parent–child relationship and communication impact child health behaviors (Baiocchi-Wagner & Talley, 2013). Emerging adults who feel they are in a good relationship with their parent may be more likely to appreciate and implement parental advice. On the other hand, emerging adults who feel dissatisfied with their parental relationship may rate advice as worse on all outcomes or may view the advice as lacking in politeness or quality content (Carlson, 2014).

Although ART proposes that advisor characteristics influence message evaluations (MacGeorge et al., 2016), findings have varied on whether advisor characteristic impact on advice outcomes was predominantly mediated by message evaluations (MacGeorge et al., 2016) or had both direct and indirect effects (Feng & Feng, 2013; Feng & MacGeorge, 2010). Thus, the following hypothesis and research question are proposed:

Hypothesis 3: Higher emerging adult ratings of advisor characteristics (parental expertise and parent–child relational satisfaction) will associate with higher

emerging adult evaluation of (a) advice politeness (i.e., negative facework and positive facework) and (b) message content (i.e., efficacy, feasibility, and absence of limitations).

Research Question 1: Will advisor characteristics (parental expertise and parent–child relational satisfaction) directly associate with overall advice outcome ratings (i.e., advice quality, implementation intention, and facilitation of coping)?

Feelings of obligation

One ART limitation is the lack of relational contextualization and incorporation of relationally driven motivations to follow advice. *Family obligation* is a social norm in which kinship ties expect certain rights and duties, and through which family members feel a duty to help one another and consider family member needs and wishes when making decisions (Fuligni & Pedersen, 2002). Children’s feelings of familial obligation increase during young adulthood as children develop a greater sense of duty to “support, assist, and respect their families” (Fuligni & Pedersen, 2002, p. 864). Explicit parental advice may elicit child feelings of obligation, especially when compared to advice from friends (Tripathi, Caplan, & Naidu, 1986). Emerging adult feelings of obligation to follow parental advice may be particularly relevant within health advice contexts but may have negative or positive implications. Burke and Segrin (2015) found that within couples, weight loss influence attempts that evoked feelings of obligation led to negative responses. Within the parent–child relationship and for PA-related advice, feelings of obligation may color emerging adult evaluations of advice characteristics and how they respond to advice. Evoking obligation may be seen as imposing on autonomy and a negative social control strategy (similar to Burke & Segrin, 2015), thus lessening the positive relationship between advice evaluations and all outcomes. Alternatively, because obligation indicates the child’s need to respect their parent and, by extension, respect their parent’s wishes (Fuligni & Pedersen, 2002), greater obligation may strengthen the positive association between advice evaluations and the emerging adult’s intent to implement the advice. Thus, the following research question is proposed:

Research Question 2: Will obligation moderate the relationships between message politeness and content, and overall advice outcome ratings (i.e., advice quality, intention to implement, and facilitation of coping)?

Method

Participants

College students enrolled in communication and human development classes at a large university in the Rocky Mountains were recruited for the present study. Participating students received a nominal amount of extra credit for completing the online survey. Only participants who reported receiving advice from a parent or guardian on PA or exercise in the past year were included in the current analysis. The final sample consisted of 196 emerging adults ($M_{\text{age}} = 19.83$, $SD = 2.15$, range = 18–28 years) who were

predominantly female (167 females and 29 males). Participants were primarily undergraduates (90 first years, 44 second years, 35 third years, 19 fourth years, 8 fifth years and beyond) and most reported receiving advice from their mother ($n = 134$), although some received advice from their father ($n = 59$), both parents ($n = 2$), or a grandmother ($n = 1$). The majority of participants were not living with the parent advisor ($n = 135$).

Procedures

In an online survey, participants were asked whether they had received advice from a parent or guardian on PA or exercise within the past year. Advice was defined for participants as recommendations about what to do, think, or feel about a PA-related situation (in line with the advice definition from MacGeorge et al., 2004). The definition of PA was left to participant discretion. Participants answering “no” were directed to a set of measures not relevant to the current study and were not included in the current study’s analyses. Individuals who had received parental advice on PA or exercise were asked to describe the most recent advice interaction and then answered questions about that conversation. Most participants reported on parents generally advising them to exercise (e.g., “You should go to the gym”; $n = 76$), although some advice specifically pertained to running ($n = 36$), playing a sport ($n = 16$), a specific workout ($n = 15$), walking ($n = 9$), recovering from an injury ($n = 9$), taking an exercise class ($n = 8$), or other activities (e.g., swimming, dance; $n = 27$). These procedures were approved by the institutional review board at the university where data were collected.

Measures

With the exception of relational satisfaction, all scales utilized 5-point Likert-type items (1 = *strongly disagree*, 5 = *strongly agree*). Items were slightly modified from previous studies on general advice between friends to reflect the fact that the advice was from a parent and pertained specifically to PA or exercise (e.g., instead of “advice from this friend” wording was changed to “advice from this parent”). Confirmatory factor analyses (CFAs) conducted in *MPlus* 7.3 validated that items loaded on the predicted latent variables (Brown, 2015). All CFAs had acceptable fit (i.e., Tucker Lewis Index [TLI] > 0.90, comparative fit index [CFI] > 0.90, root mean square error of approximation [RMSEA] < .08). Internal consistency of scores (Cronbach’s α s) exceeded .75 for all variables (see Table 1). Complete item sets are available from the first author upon request.

Message politeness. Negative and positive facework were assessed separately (Brown & Levinson, 1987). Negative facework was assessed with 4 items modified from MacGeorge et al. (2004; e.g., “The way my parent gave me advice showed consideration for my independence”). Eight items were adapted from prior studies (Feng & MacGeorge, 2010; MacGeorge et al., 2004) to assess positive facework, including issues of likeability (e.g., “The advice made me feel good about myself”) and competency (e.g., “The advice suggested I was lacking in ability” [*reverse coded*]; see Lim & Bowers, 1991).

Table 1. Descriptive statistics.

	Range	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Sex	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Age	18–28	19.83 (2.15)	.33***	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Parent sex	—	—	-.03	-.10	—	—	—	—	—	—	—	—	—	—	—	—
4. Expertise	1.00–5	3.64 (0.87)	.06	-.13†	.14†	.90	—	—	—	—	—	—	—	—	—	—
5. RelSat	1.40–7	5.94 (1.11)	-.01	-.10	.00	.31***	.95	—	—	—	—	—	—	—	—	—
6. NegFace	1.50–5	3.88 (0.75)	-.08	-.11	.01	.34***	.58***	.83	—	—	—	—	—	—	—	—
7. PosFace	1.38–5	3.88 (0.72)	-.02	-.06	.03	.38***	.64***	.82***	.78	—	—	—	—	—	—	—
8. Efficacy	1.33–5	3.81 (0.67)	.08	-.04	.03	.20**	.36***	.48***	.56***	.85	—	—	—	—	—	—
9. Feasibility	1.80–5	4.18 (0.61)	.06	-.07	-.01	.15*	.36***	.49***	.56***	.38***	.83	—	—	—	—	—
10. AbsLim	1.00–5	3.94 (0.79)	.15*	-.01	.01	.17*	.33***	.38***	.49***	.42***	.55***	.77	—	—	—	—
11. Oblig	1.00–5	2.85 (0.77)	.11	-.02	-.02	.04	.13†	-.09	-.04	.21**	-.19**	-.11	.92	—	—	—
12. AQual	1.33–5	4.08 (0.81)	.03	-.08	.00	.35***	.69***	.70***	.77***	.57***	.40***	.39***	.23**	.88	—	—
13. Intent	1.00–5	3.84 (0.85)	.11	-.11	-.03	.24**	.55***	.52***	.69***	.53***	.44***	.47***	.26***	.73***	.93	—
14. Coping	1.00–5	3.43 (0.72)	.10	-.14*	-.02	.35***	.49***	.47***	.59***	.50***	.16*	.18*	.29***	.67***	.61***	.88

Note. Cronbach's α s for each scale reported on the diagonal in underlined italics. Expertise = parental expertise; RelSat = relational satisfaction; NegFace = negative facework; PosFace = positive facework; AbsLim = absence of limitations. Oblig = obligation feelings. AQual = advice quality; Intent = implementation intention. Coping = facilitation of coping.

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Message content. Evaluations of advice efficacy, feasibility, and absence of limitations were assessed to address message content. A 3-item scale developed by Feng and MacGeorge (2010) assessed participant perceptions of advice efficacy (e.g., “I thought the advised action could solve my difficulties”). Five items developed by MacGeorge and colleagues (2004) were used to assess participant perceptions of advice feasibility (e.g., “The advice given was something I could do”) and 3 items from the same study were used for absence of limitations (e.g., “I can see that the advised action has significant disadvantages” [*reverse coded*]).

Advisor characteristics. Parental expertise on PA and parent–child relational satisfaction was assessed from the emerging adult’s perspective. Five items were adapted from Feng and MacGeorge (2010) to measure participants’ perceptions of parents’ expertise in regards to the specific problem (e.g., “My parent has experience dealing with exercise or physical activities”). Communication scholars studying the parent–child relationship have adapted the Marital Opinion Questionnaire (Schrodt & Afifi, 2007) to assess parent–child relationship satisfaction. Ten items were measured on a semantic 7-point scale (e.g., 1 = *harmful*, 7 = *helpful*; 1 = *completely dissatisfied*, 7 = *completely satisfied*) and were averaged to form relational satisfaction scores.

Obligation. The 5 items measuring participant feelings of obligation were created for this study, using the stem “after this conversation I . . . ” (“felt that I had to take this advice because it was from my parent,” “felt obligated to at least try the advice,” “felt that I had no choice but to make an effort to do the advice,” “felt I owed it to my parent to at least consider their advice,” and “felt I needed to try my parent’s advice because it was from my parent.”).

Advice outcomes. Three variables were used to assess advice outcomes: advice quality, implementation intention, and facilitation of coping. Participants evaluated the overall quality of advice by responding to 3 items assessing perceived helpfulness, supportiveness, and effectiveness. These items have been used in multiple previous studies of advice (Goldsmith & MacGeorge, 2000; MacGeorge et al., 2004). Participants completed 3 items (e.g., “I plan to follow the advice I was given”) to assess intention to implement the advised action and 9 items (e.g., “After this conversation, I am better able to manage any emotional distress I have from the problem”) to assess facilitation of coping (MacGeorge et al., 2004).

Plan of analysis

Data missingness was .4% and thus was handled with expectation maximization (Olinsky, Chen, & Harlow, 2003). Multivariate outliers were present, but did not significantly alter results, and thus were retained. The data showed multivariate abnormality (Mardia’s multivariate kurtosis = 35.42). Thus, all models were examined with robust maximum likelihood structural equation modeling in *MPlus* 7.3. All variables were represented as observed, and endogenous variables were correlated. Sex and age of the

emerging adult and sex of the parent were regressed on advice outcomes as control variables.

To examine the model in Figure 1 (containing Hypotheses 1–3 and Research Question 1), we first determined whether advisor characteristics should be modeled with a direct effect on advice outcomes or primarily as mediated through message evaluations (i.e., Research Question 1). To answer this question, two models were examined and model fit statistics were compared to determine the best-fitting model. Both models contained associations between advisor characteristics and message evaluations (i.e., the *a* paths or X to M; as predicted by Hypothesis 3), and between message evaluations and advice outcomes (i.e., the *b* paths; M to Y, as predicted by Hypotheses 1 and 2). One model contained direct effects (i.e., *c'* paths; X to Y; Hayes, 2013); the other did not contain direct effects. We examined whether the best-fitting model contained indirect effects of advisor characteristics on outcomes as mediated through message evaluations (Research Question 1; i.e., the *ab* paths) by running 95% bias-corrected, bootstrap confidence intervals (CI95) based on 10,000 bootstrap samples (Hayes, 2013). To determine whether obligation interacted with any variables of interest (i.e., Research Question 2), we analyzed obligation as a moderator between message evaluations and advice outcomes. All variables were centered prior to these interaction analyses. Statistically significant interactions were probed in SPSS 22 with PROCESS (Hayes, 2013), and simple slopes analyses at the moderator mean and one standard deviation above and below the moderator mean were used to create figures of statistically significant interactions.

Results

Descriptive statistics

Descriptive statistics, internal reliability statistics, and bivariate correlations are presented in Table 1. Consistent with prior research on college-age students, participants' rating of their parent–child relational satisfaction was relatively high ($M = 5.94$, $SD = 1.09$, range 1.40–7; Schrodtt & Afifi, 2007). Consistent with prior advice research, participants responded favorably to advice overall. Only 13% of participants rated the advice quality at or below the scale midpoint of three ($M = 4.10$, $SD = 0.79$). Only 17% of participants did not intend to implement the advice (i.e., scored at or below three; $M = 3.85$, $SD = 0.84$). Likewise, participants felt that parental advice facilitated their coping on average ($M = 3.43$, $SD = 0.71$), with only 28% of participants saying that the advice did not help in this area (i.e., scored at or below three).

Structural equation modeling

Two models were compared to answer Research Question 1 and assess whether advisor characteristics should be modeled with direct influence on advice outcomes (i.e., advice quality, intent to implement the advice, and facilitation of coping), when including the association between advisor characteristics and message evaluations (Hypothesis 3), and message evaluations and advice outcomes (Hypotheses 1 and 2) as represented by Figure 1. The model including direct effects on advice outcomes demonstrated adequate fit,

Table 2. Structural equation model results.

	Mediators			Advice outcomes		
	Expertise	RelSat	R ²	AQual	Intent	Coping
Sex	–	–	–	.10(.12) .05	.16(.15) .07	.17(.12) .08
Age	–	–	–	.01(.02) .01	–.02(.02) –.05	–.02(.02) –.07
Parent sex	–	–	–	–.02(.04) –.01	–.07(.09) –.05	–.06(.07) –.06
Expertise	–	–	–	.03(.04) .04	–.04(.06) –.04	.10*(.05) .13
RelSat	–	–	–	.23***(.04) .32	.16**(.05) .21	.13*(.05) .19
NegFace	.15*(.06) .18	.35***(.05) .53	.36	.19*(.09) .18	–.20(.14) –.17	–.07(.10) –.07
PosFace	.17**(.06) .20	.37***(.05) .57	.44	.36***(.10) .32	.64***(.14) .54	.46**(.15) .46
Efficacy	.07(.06) .09	.20***(.05) .33	.14	.24***(.06) .20	.23***(.09) .18	.32***(.09) .30
Feasibility	.03(.05) .04	.19***(.05) .35	.13	–.04(.07) –.03	.10(.11) .08	–.18*(.08) –.15
AbsLim	.07(.07) .08	.22***(.06) .30	.11	–.02(.05) –.02	.08(.07) .08	–.15*(.06) –.16
R ²				.70	.56	.50
Obligation interactions				AQual	Intent	Coping
NegFace × Obligation				–.02(.04)	–.12*(.05)	.02(.05)
PosFace × Obligation				–.06(.04)	–.20**(.05)	–.02(.05)
Efficacy × Obligation				–.06(.05)	–.25***(.06)	.08(.06)
Feasibility × Obligation				–.10(.06)	–.39***(.07)	.02(.08)
AbsLim × Obligation				–.07 [†] (.04)	–.22***(.05)	.01(.05)

Note. Unstandardized coefficients first reported with their standard errors in parentheses, and standardized regression coefficients in italics: B(SE) β . Obligation interactions were each entered individually into the model. Standardized coefficients are not given for interactions.

[†] $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

$\chi^2(15) = 15.66, p = .41, \chi^2/df = 1.04, CFI = 1.00, TLI = 1.00, RMSEA = .015$ (CI90 = .000, .070). The model excluding direct effects did not demonstrate adequate fit, $\chi^2(21) = 56.16, p < .001, \chi^2/df = 2.67, CFI = 0.96, TLI = 0.87, RMSEA = .092$ (CI90 = .064, .122). Thus, the model including advisor characteristic direct effects was subsequently used to report Hypotheses 1–3 and Research Question 1 results. All unstandardized regression coefficients (B), standard errors (SE), and standardized coefficients (β) for this model are reported in Table 2, although only statistically significant paths are modeled (see Figure 2) and discussed in-text. Overall, the model explained 69.6% of the variance in advice quality, 55.8% in implementation intention, and 50% in facilitation of coping.

Message politeness. Hypothesis 1 proposed that emerging adult evaluations of advice message politeness (i.e., negative and positive facework) would associate with emerging adult ratings of advice quality, facilitation of coping, and intention to implement the advice. Higher ratings of negative facework associated with better advice quality as predicted ($B = .19, p = .03$) but not with facilitation of coping or implementation intention. As predicted, higher positive facework perceptions associated with better advice quality ratings ($B = .36, p < .001$), better coping facilitation ($B = .46, p = .002$), and greater implementation intention ($B = .64, p < .001$). Thus, Hypothesis 1 was predominantly supported.

Message content. Hypothesis 2 proposed that higher emerging adult evaluations of advice message content (i.e., efficacy, feasibility, and absence of limitations) would associate

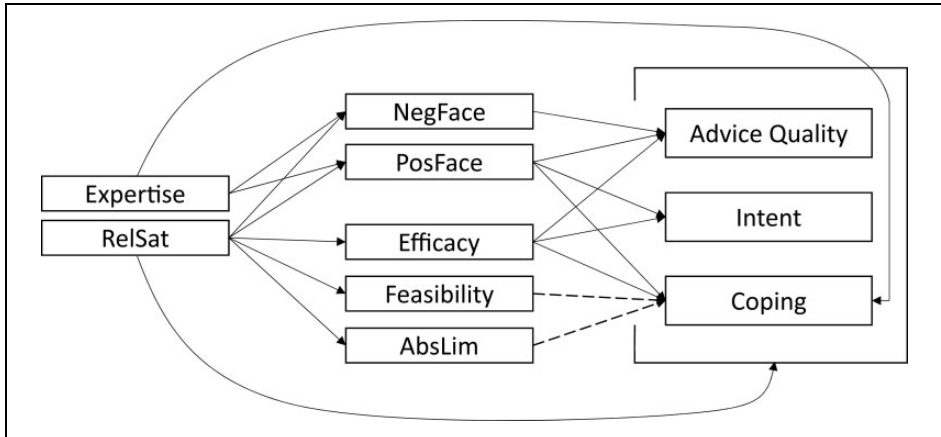


Figure 2. Structural equation model statistically significant paths for advice outcomes. Correlations and covariates not pictured for parsimony. All pictured lines are statistically significant at $p < .05$. Dashed lines represent a negative association and solid lines represent a positive association.

with better emerging adult ratings of advice quality, facilitation of coping, and intention to implement the advice. Hypothesis 2 was supported for efficacy: greater efficacy ratings linked to higher advice quality ratings ($B = .24, p < .001$), better facilitation of coping ($B = .32, p < .001$), and greater intention to implement the advice ($B = .23, p = .01$). However, feasibility ($B = -.18, p = .02$) and absence of limitations ($B = -.15, p = .02$) were *negatively* associated with facilitation of coping, which was opposite of predictions. Neither feasibility nor absence of limitations were significantly associated with implementation intention or advice quality. Thus, Hypothesis 2 was partially supported.

Advisor characteristics. Hypothesis 3 posited that emerging adult ratings of advisor characteristics (i.e., parent expertise and parent–child relationship satisfaction) would associate with better (a) politeness evaluations and (b) message content. Higher emerging adult ratings of parent expertise linked to better politeness ratings (negative facework $B = .15, p = .01$; positive facework $B = .17, p = .01$) but not message content ratings. Higher relational satisfaction with the parent linked to better politeness ratings (negative facework $B = .35, p < .001$; positive facework $B = .37, p < .001$) and message content (efficacy $B = .20, p < .001$; feasibility $B = .19, p < .001$; absence of limitations $B = .22, p < .001$). Thus, Hypothesis 3(a) was supported and Hypothesis 3(b) was partially supported.

Research Question 1 questioned whether advisor characteristics had both direct and indirect effects on advice outcomes. Direct effects were present: greater ratings of parental expertise associated with better coping ($B = .10, p = .04$) and more relationally satisfied participants reported all three advice outcomes were better: advice quality ($B = .23, p < .001$), implementation intention ($B = .16, p = .002$), and facilitation of coping ($B = .13, p = .01$). Indirect effects were also present (see Table 3 for all unstandardized

Table 3. Advisor characteristic total, indirect, and direct effects on outcomes.

		Advice outcomes		
		AQual	Intent	Coping
Expertise	Total effect	.14*	.06	.18*
	Total indirect effect	.10*	.10*	.08*
	Direct effect	.03	-.04	.10*
Indirect individual effects	NegFace	.03	-.03	-.01
	PosFace	.06*	.11*	.08*
	Efficacy	.02	.02	.02
	Feasibility	.00	.00	-.01
	AbsLim	.00	.01	-.01
RelSat	Total effect	.47*	.41*	.27*
	Total indirect effect	.24*	.25*	.15*
	Direct effect	.23*	.16*	.13*
Indirect individual effects	NegFace	.07*	-.07	-.02
	PosFace	.13**	.24*	.17*
	Efficacy	.05*	.05*	.06*
	Feasibility	-.01	.02	-.04*
	AbsLim	.00	.02	-.03

Note. All reported coefficients are unstandardized.

* $p < .05$.

indirect, direct, and total effects). Parent expertise ratings had a total positive indirect effect on all three advice outcomes: advice quality ($ab = .10$; $CI95 = .03, .18$), implementation intention ($ab = .10$; $CI95 = .02, .19$), and facilitation of coping ($ab = .08$; $CI95 = .01, .16$). The indirect effect for parent expertise was primarily mediated through positive facework for all three outcomes (see Table 3). Parent-child relationship satisfaction also had a total positive indirect effect on all three advice outcomes: advice quality ($ab = .24$; $CI95 = .16, .33$), implementation intention ($ab = .25$; $CI95 = .17, .35$), and facilitation of coping ($ab = .15$; $CI95 = .06, .24$). For all three advice outcomes, the indirect effect of parent relational satisfaction was positively mediated through efficacy and positive facework (see Table 3). Additionally, the indirect effect of relational satisfaction on coping facilitation was negatively mediated through feasibility. In other words, greater relational satisfaction ratings were associated with greater feasibility ratings, which in turn were associated with less coping. Thus, Research Question 1 was answered: advisor characteristics had positive direct and indirect effects on advice outcomes.

Interaction analyses

Obligation as a moderator. Research Question 2 questioned how emerging adult feelings of obligation would moderate the association between message evaluations (i.e.,

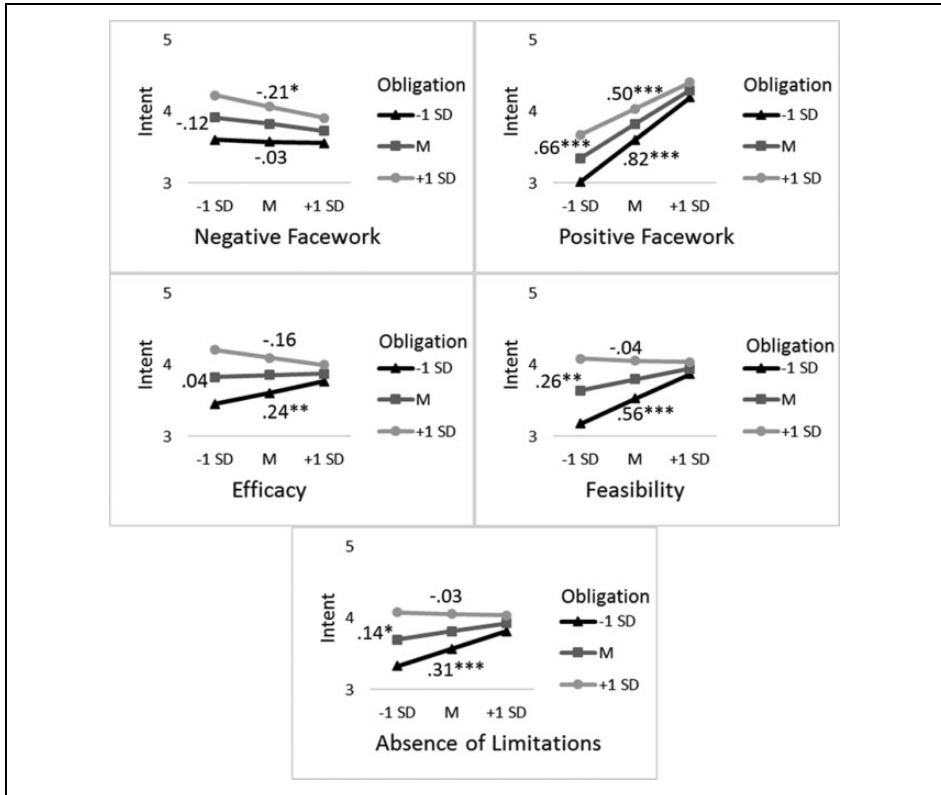


Figure 3. Obligation as a moderator between message evaluations and implementation intention. The Johnson–Neyman technique describes the values of the moderator at which the relationship between X and Y is statistically significant, and the percentage of participants that fall into this statistically significant region (Hayes, 2013). The values of obligation at which the various message evaluations (i.e., X) are statistically significant on implementation intention and the percentage of participants in that range are: Negative facework: above 3.40, 21.5%; Positive facework: below 4.68, 99%; Efficacy: below 2.45, 30.8% and above 3.84, 7.7%; Feasibility: below 3.13, 65.1% and above 4.07, 4.6%; Absence of limitations: below 2.97, 50.3% and above 4.29, 3.1%.

politeness and content) and advice outcomes. A clear pattern emerged: no interactions between message evaluations and obligations were statistically significant for advice quality or facilitation of coping, but all interactions between obligation and message evaluations were statistically significant for the advice implementation intention outcome (see Table 3 for unstandardized coefficients and standard errors). Visual representations of the five statistically significant interactions are shown in Figure 3. As can be seen in the figures, obligation functioned differently when moderating negative and positive facework than when moderating the three message content variables. For negative facework, increased obligatory feelings strengthened the negative relationship between negative facework and intention to implement the advice. For positive facework, increased obligatory feelings weakened the positive

relationship between positive facework and intention to implement the advice. For the three advice content evaluations, lower feelings of obligation strengthened the positive relationship between content evaluations and implementation intentions. However, when feelings of obligation were very high, the relationship between content and implementation intention became negative (see Figure 3 for Johnson–Neyman regions of significance). Thus, Research Question 2 was answered: obligation moderated all message evaluations on implementation intention and the explained variance for implementation intention increased between 1% and 5% for the negative facework (1%), positive facework (3%), efficacy (3%), feasibility (5%), and absence of limitations (4%) interactions with obligation.

Discussion

Emerging adults ($N = 196$; 18–28 years old) were surveyed about PA or exercise advice they had received from a parent. Aspects of ART were tested and extended by examining emerging adult ratings of the parent–child relationship, parent expertise, advice message politeness and content, and feelings of obligation to follow the advice. Three findings emerged. First, markers of parental warmth were particularly important in the conversation, specifically through relational satisfaction and positive facework politeness. Second, although ART and general logic would suggest emerging adult reactions would be favorable toward suggestions perceived as better solutions to the problem, this was not always the case. Finally, emerging adult feelings of obligation moderated their advice responses. We discuss psychological reactance theory as an explanatory mechanism for why some findings deviated from ART predictions. Psychological reactance—motivation to reject a persuasive message—occurs when individuals perceive the message threatens their freedom to act as they wish (Brehm, 1976). Reactance lowers intentions to follow message recommendations, and individuals may even act counter to message recommendations to reassert their behavioral freedom (Brehm, 1976; Dillard & Shen, 2005). Implications of study findings in relation to parent–child advice conversations about PA and for ART are discussed.

Parent–child relational quality and parent politeness

Emerging adult satisfaction with the parent–child relationship and perceptions of parental attention to child positive face were strongly influential for emerging adult perceptions of the advice interaction, willingness to follow the parent’s advice, and coping. Participants who viewed their relationship with their parent as highly satisfying evaluated message politeness and content more positively and more favorably rated all advice outcomes. Furthermore, relational satisfaction indirectly, positively influenced all advice outcomes through efficacy and positive facework. Positive facework was strongly, positively associated with all advice responses. These findings align with ART propositions that positively evaluated advisors are more persuasive, and that positive facework lessens face threat and

thus facilitates positive emotional responses and advice outcomes (e.g., Feng & MacGeorge, 2010).

Current findings are consistent with broader parenting literature, which indicates that child perceptions of parental warmth and acceptance facilitate desirable child outcomes (Baumrind, 1996). Perceptions of parental warmth and acceptance may be salient to parental PA advice message evaluations and advice outcomes for several reasons. First, receiving advice to exercise more can be face-threatening (Goldsmith, 2004), especially if the recipient perceives the advice stems from parent negative perceptions of the recipient's physical appearance (Anderson et al., 2013). Positive facework conveys liking, acceptance, and approval (Goldsmith, 2004)—concepts that may be particularly important when discussing issues that bring to mind weight, body image, and potential insecurities about parental motives for wanting to offer PA advice. Conveyance of warmth and acceptance may help to mitigate face threat inherent in discussions of PA, or health advice in general, beyond just the parent-child relationship. Doctor-patient relationship quality is a strong predictor of patient adherence and satisfaction (Egede & Ellis, 2008; Piette, Heisler, Krein, & Kerr, 2005; Safran et al., 1998), with patient outcomes negatively related to physician directive behavior and positively related to emotionally responsive and supportive behavior (Beck et al., 2002).

Alternatively, emerging adult responses to parent-child advice interactions could hinge on perceptions of parental warmth, regardless of topic. As children are shaping their sense of identity during emerging adulthood (Willoughby & Arnett, 2012), affirming parental advice may be more favorably viewed in terms of both problem-solving and emotional outcomes. Respect for emerging adult autonomy was important in current findings but only for advice quality ratings. Emerging adults who perceived advice had negative facework were not more likely to implement the advice or report it facilitated coping. Because of participant age and the parent-child context, we anticipated politeness via negative facework would play a larger role in emerging adult responses. Although autonomy issues may always underlie parental advice, the relational context combined with a potentially sensitive topic could enhance the importance of warmth and acceptance. Assuming the combined relational and topic context intensifies warmth importance aligns with previous findings that warmth from a parent or romantic partner during PA discussions drives emerging adult motivation to enact healthy exercise behaviors (Dailey et al., 2010) and that youth respond favorably to PA influence when they perceive parental guidance is positive and encouraging (Borra et al., 2003; O'Dea, 2005).

Characteristics of the advised action

ART posits that along with advisor characteristics and the style in which the advice is given, recipient perceptions of advice message content influence willingness to implement advice (MacGeorge et al., 2016), and coping and advice quality ratings (Feng & MacGeorge, 2010). In line with these predictions, participants who rated advised actions as better providing a solution or efficacious response to the problem rated advice quality as higher, intended to implement the advice, and better coped with the problem. However, as emerging adults reported that they could better perform the advised action (i.e., higher

feasibility) and that the advised action did not have many drawbacks (i.e., was absent of limitations), emerging adults reported the advice helped them cope *less*. We were surprised by these findings, in light of a fairly robust literature supporting ART propositions that any favorable rating of the advised action should facilitate better outcomes (see MacGeorge, Feng et al., 2016) and the general expectation that better solutions should be viewed more favorably. The negative association between facilitation of coping, and feasibility and absence of limitation ratings may reflect the sensitive and unique nature of parent–child conversations about PA. Although emerging adults might appreciate parent assistance and motivation regarding PA issues, over-articulation of PA merits and feasibility may be perceived as overstepping appropriate autonomy boundaries. Emerging adults may view elongated and explicit advice messages as overbearing, nagging, or unhelpful (Goldsmith & Fitch, 1997), especially if emerging adults already know that they can, and should, be performing the recommended PA behaviors. For example, parental advice to “work out at least 3 times a week for 20 minutes each time” may be rated as high in efficacy and perceived as motivating, but additional arguments about how this schedule is feasible for the emerging adult (e.g., “you could work out after class”) or absent of limitations (e.g., “there’s no reason for you not to exercise”) may be perceived as overstepping, especially since emerging adults are attempting to assert their independence (Willoughby & Arnett, 2012). These findings align with psychological reactance theory, which states individuals who perceive a message threatens their freedom to engage in a behavior they are capable of doing will react through rejecting message propositions (Brehm, 1976; Dillard & Shen, 2005). Dailey, Thompson, and Romo (2014) proposed that teens might rebel against perceived freedom threats inherent in mother exercise recommendations and found adolescents exercised less when mothers pushed those low in sensitivity to weight issues and high in health motivation to exercise. Previous research on ART within a parent–child relationship has only examined advice implementation intention (and not facilitation of coping; Carlson, 2016), and advice research on doctor–patient relationships is inconclusive about whether efficacy, feasibility, and absence of limitations affect patient outcomes (Feng, Bell, Jerant, & Kravitz, 2011). More research is needed to determine whether participant responses to advice content are generalizable across parent–child advice interactions, across PA advice interactions, or are unique to parental advice about PA.

Obligation to follow parental advice

Results related to participant feelings of obligation to follow advice also supported that participants rebel against certain types of parental advice. Obligatory feelings moderated the relationship between emerging adult advice message evaluations (i.e., politeness and content) and intention to implement the advice. Participants who reported the highest obligation feelings reported they were more likely to implement the advice than those with reduced obligatory feelings, but this intention decreased as message content was rated more favorably. This small percentage of participants who felt the highest obligation (between 3% and 7% of participants) seemed to rebel against following advice as it became higher in content quality (i.e., efficacious, feasibility, and absent of limitations). Other researchers have cautioned against obligation as a social control strategy: couples

using obligation tactics to socially control a spouse to lose weight were more likely to have partners who enacted unhealthy behaviors (Burke & Segrin, 2015). Thus, aligning with findings of PA influence in romantic couples (Burke & Segrin, 2015) and mother–adolescent dyads (Dailey et al., 2014), the current results support that emerging adults may experience psychological reactance to certain message content features (especially when obligation is high) and may thus attempt to regain their threatened freedom by doing the opposite of what the parent suggested (Brehm, 1976). However, psychological reactance was not relevant when examining positive facework with obligation. Positive facework evaluations led to higher implementation intention, although higher obligation weakened the positive relationship between positive facework and intent to adhere to advice. The implications of the negative facework and obligation findings were less clear. Greater ratings of negative facework reduced intention to implement advice when obligation feelings were high. Negative facework demonstrates respect for recipient autonomy, potentially indicating that obligatory feelings were mitigated when combined with explicit statements about emerging adult freedom to act as they wished. However, these findings could also be interpreted to support psychological reactance.

When obligatory feelings were comparatively low among certain participants, these emerging adults were more likely to implement the advice when they perceived the advice message proposed a better solution and was worded politely. These findings support ART dual-process theorizing, which states that message features should be more impactful when scrutinized closely (Bodie & MacGeorge, 2015). Emerging adults appeared to engage in more processing and message scrutiny based on message politeness and content when they felt that they had the option to accept or reject the advice. However, emerging adults who feel obligated to follow parent recommendations may do so regardless of message scrutiny and evaluation, except for when obligation becomes high enough to cause reactance.

Theoretical implications

Current findings upheld certain ART propositions, except for where psychological reactance seemed to be present. Overall, ART propositions related to advisor characteristics and politeness were supported with some caveats. As expected, positive facework positively associated with all advice outcomes, although negative facework only associated with advice quality. Parent expertise associated with politeness evaluations, and relational satisfaction associated with politeness and content, supporting ART propositions that positive advisor evaluations lead to more persuasive and favorably perceived messages (MacGeorge et al., 2016). ART has indicated advisor characteristics' influence on advice outcomes will be overshadowed by politeness and content evaluations (e.g., Feng & MacGeorge, 2010; MacGeorge et al., 2016), but emerging adult ratings of parent expertise directly linked to facilitation of coping, and parent–child relationship satisfaction directly and indirectly linked to all outcomes in the current study. Relational satisfaction has not previously been examined as an advisor characteristic, and the parent–child relationship, emerging adulthood, and PA topics may make relational quality especially salient. Additionally, MacGeorge and colleagues (2016) noted that advisor characteristic impact on outcomes might be stronger for retrospective

recall than immediate assessment of advice, which may explain why the current findings align closest with other retrospective recall findings.

ART also proposes that message content (i.e., efficacy, feasibility, and absence of limitations) favorably impacts recipient advice responses (MacGeorge et al., 2004, 2016). Efficacy positively associated with all outcomes, per predictions. Counter to predictions, the other two message content ratings of feasibility and absence of limitations negatively associated with facilitation of coping, indicating psychological reactance. Furthermore, when emerging adults reported feeling extremely obligated to their parents, higher ratings of all three message content features negatively associated with implementation intention, also supporting emerging adult psychological reactance.

The deviation of current message content findings from ART predictions is noteworthy for two main reasons. First, previous conceptualizations of advice content have grouped efficacy, feasibility, and absence of limitations together, both conceptually and methodologically. Conceptually, the phrase “message content” has been used to describe efficacy, feasibility, and absence of limitations, based on reasoning that some advised actions are better than others and better advised actions contain high levels of each of these three aspects. Methodologically, the three variables have loaded onto one latent factor of message content (Feng & Feng, 2013) and been validated as predictors of a second-order factor (MacGeorge et al., 2016), statistically confirming this conceptual grouping. The current study did not group these variables and coping facilitation was negatively associated with feasibility and absence of limitations but positively associated with efficacy. Current findings contradict previous ART assumptions that the three message content variables always influence outcomes in similar and consistent ways. The representation of message content as one cohesive concept may not hold in all advice contexts, underscoring the importance of psychometric analyses in all studies, even for measures that have been validated in multiple studies and across cultures (e.g., Feng & Feng, 2013).

Second, although message content ratings have not always been significantly associated with emotional outcomes (e.g., MacGeorge et al., 2016), they have never impacted outcomes unfavorably, and explicit efficacy, feasibility, and absence of limitations statements have always been postulated as desirable (Feng & Burleson, 2008). The current findings challenge assumptions that higher message content ratings will always lead to favorable advice outcomes or, at minimum, have no effect at all. Message content effects could differ when psychological reactance occurs. Health influence attempts can incite psychological reactance, especially when messages indicate advisors feel they can control advice recipients (e.g., explicitly evoke obligation; Dillard & Shen, 2005) and emerging adults may be susceptible to reactance due to attempts to establish their autonomy (Willoughby & Arnett, 2012). ART propositions have predominantly been studied in peer relationships and across a range of problems typical for college students (e.g., academic, relational; MacGeorge, Feng, et al., 2016). Replicating ART propositions in a parent–child relationship and PA advice topic adds validity to supported theoretical propositions, but we are therefore unable to claim whether the relationship, topic, or combination of the two drove the results patterns that were unique and supported psychological reactance.

Overall, the current findings indicate that ART propositions about advisor characteristics and politeness may hold across situations, but that relational and topical contexts likely to cause psychological reactance may alter the effect of message content evaluations. The obligation and message content interactions shed light on the parent–child dynamic and support ART dual-processing claims (for low levels of obligation) while simultaneously supporting psychological reactance (for high levels of obligation). Thus, we feel that the current findings add nuance to ART by considering recipient emotional reactions to relational and topical elements, which could be amplified by advice message features that would otherwise be positively received. Future studies could examine the role of psychological reactance within an ART framework and potentially determine which contextual factors could drive advice content perceptions to align more closely with reactance theorizing than with traditional ART findings.

Practical implications for parent advisors

Current findings offer several recommendations for parents looking to advise their emerging adult children in a way that is favorably received. First, emerging adults interpret parental advice within the greater context of the relationship. Parents who do not have a great relationship with their child may find their child is not inclined to find the advice helpful, no matter how objectively “good” the advice may be. However, parents can word advice to facilitate greater potential success. Parents should recognize the potential face threat inherent in discussing issues related to their children’s PA, which could be equated with weight and body image (Anderson et al., 2013). Parents should be especially careful to avoid insulting their child’s body type or current habits, or making statements that can be seen as demeaning. Advice that makes emerging adults feel incompetent or unapproved of may be particularly demotivating, and have the opposite effect than intended. Thus, parents should take care to indicate approval and liking for their child, and that their child can competently handle problems.

Efficacious solutions enhance advice quality perceptions, emerging adult coping, and intention to implement the advice. However, parents should remember that they often serve as motivators for emerging adults to participate in PA (Wallace et al., 2000), and thus “advice” interactions may be best received when parents attend to encouragement and social support and do not constrain emerging adult autonomy. Specifically, over-explaining how easily the child could complete an action and the lack of drawbacks (e.g., “You could run more. You have time in the afternoons when you’re not doing anything”) might make the emerging adult feel the parent is overstepping boundaries and threatening child autonomy, especially if the emerging adult already knows the information. Parents should be encouraging and motivating rather than pressing home the points of why the child “is able to” do the recommended PA.

Although there is a common perception that emerging adults tend to rely more on peers than parents for social support, several studies have found that parental advice is still heavily utilized in this group (Carlson, 2014; Lau et al., 1990). These claims are substantiated by the current findings. Overall, participants responded favorably to the advice they received. The vast majority of participants planned to implement the advice they received and reported that the advice conversation helped to facilitate their coping

with the problem. These findings indicate parental opinions and suggestions still hold weight for this population and thus may serve as a potential intervention point to increase emerging adults' formation of healthy habits.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References

- Ackard, D. M., Neumark-Sztainer, D., Story, M., & Perry, C. (2006). Parent-child connectedness and behavioral and emotional health among adolescents. *American Journal of Preventive Medicine, 30*, 59–66. doi:10.1016/j.amepre.2005.09.013
- Anderson, J., Cornacchione, J., & Maloney, E. K. (2013). Normative beliefs and social support in weight loss communication. *The International Journal of Communication and Health, 1*, 31–37.
- Arnett, J. J. (2015). *Emerging adulthood: The winding road from the late teens through the twenties* (2nd ed.). New York, NY: Oxford University Press.
- Baiocchi-Wagner, E. A., & Talley, A. E. (2013). The role of family communication in individual health attitudes and behaviors concerning diet and physical activity. *Health Communication, 28*, 193–205. doi:10.1080/10410236.2012.674911
- Bauman, A. (2004). Updating the evidence that physical activity is good for health: An epidemiological review 2000–2003. *Journal of Science and Medicine in Sport, 7*, 6–19.
- Baumrind, D. (1996). The discipline controversy revisited. *Family Relations, 45*, 405–414. doi:10.2307/585170
- Beck, R. S., Daughtridge, R., & Sloane, P. D. (2002). Physician-patient communication in the primary care office: A systematic review. *Journal of the American Board of Family Practice, 15*, 25–38.
- Beets, M. W., Cardinal, B. J., & Alderman, B. L. (2010). Parental social support and the physical activity-related behaviors of youth: A review. *Health Education & Behavior, 37*, 621–644. doi:10.1177/1090198110363884
- Bodie, G. D., & MacGeorge, E. L. (2015). Contemporary theories of supportive communication. In D. Braithwaite & P. Schrodt (Eds.), *Engaging theories in interpersonal communication* (2nd ed., pp. 129–141). Thousand Oaks, CA: Sage.
- Bonaccio, S., & Dalal, R. S. (2006). Advice taking and decision-making: An integrative literature review, and implications for the organizational sciences. *Organizational Behavior and Human Decision Processes, 101*, 127–151. doi:10.1016/j.obhdp.2006.07.001
- Borra, S. T., Kelly, L., Shirreffs, M. B., Neville, K., & Geiger, C. J. (2003). Developing health messages: Qualitative studies with children, parents, and teachers help identify communications opportunities for healthful lifestyles and the prevention of obesity. *Journal of the American Dietetic Association, 103*, 721–728. doi:10.1053/jada.2003.50140
- Brehm, J. W. (1976). Responses to loss of freedom: A theory of psychological reactance. In J. W. Thibaut, J. T. Spence, & R. C. Carson (Eds.), *Contemporary topics in social psychology* (pp. 51–78). Morristown, NJ: General Learning Press.
- Brown, T. A. (2015). *Confirmatory factor analysis for applied research* (2nd ed.). New York, NY: Guilford Press.

- Brown, P., & Levinson, S. C. (1987). *Politeness: Some universals in language usage*. New York, NY: Cambridge University Press.
- Burke, T. J., & Segrin, C. (2014). Examining diet- and exercise-related communication in romantic relationships: Associations with health behaviors. *Health Communication, 29*, 877–887. doi:10.1080/10410236.2013.811625
- Burke, T. J., & Segrin, C. (2015). Weight-related social control in couples: Associations with motives, constraints, and health behaviors. Advanced online publication. *Communication Research*. doi:10.1177/0093650215590606
- Carlson, C. L. (2014). Seeking self-sufficiency: Why emerging adult college students receive and implement parental advice. *Emerging Adulthood, 2*, 257–269. doi:10.1177/2167696814551785
- Carlson, C. L. (2016). Predicting emerging adult college students' implementation of parental advice: Source, situation, relationship, and message characteristics. *Western Journal of Communication*. Advanced online publication. doi:10.1080/10570314.2016.1142112
- Dailey, R. M., Romo, L. K., & McCracken, A. A. (2010). Messages about weight management: An examination of how acceptance and challenge are related to message effectiveness. *Western Journal of Communication, 74*, 457–483. doi:10.1080/10570314.2010.512279
- Dailey, R. M., Thompson, C. M., & Romo, L. K. (2014). Mother–teen communication about weight management. *Health Communication, 29*, 384–397. doi:10.1080/10410236.2012.759052
- Dillard, J. P., & Shen, L. (2005). On the nature of reactance and its role in persuasive health communication. *Communication Monographs, 72*, 144–168. doi:10.1080/03637750500111815
- Edwardson, C. L., & Gorely, T. (2010). Parental influences on different types and intensities of physical activity in youth: A systematic review. *Psychology of Sport and Exercise, 11*, 522–535. doi:10.1016/j.psychsport.2010.05.001
- Egede, L. E., & Ellis, C. (2008). Development and testing of the multidimensional trust in health care systems scale. *Journal of General Internal Medicine, 23*, 808–815. Retrieved from <http://doi.org/10.1007/s11606-008-0613-1>
- Feng, B., Bell, R. A., Jerant, A. F., & Kravitz, R. L. (2011). What do doctors say when prescribing medications?: An examination of medical recommendations from a communication perspective. *Health Communication, 26*, 286–296.
- Feng, B., & Burleson, B. R. (2008). The effects of argument explicitness on responses to advice in supportive interactions. *Communication Research, 35*, 849–974. doi:10.1177/0093650208324274
- Feng, B., & Feng, H. (2013). Examining cultural similarities and differences in responses to advice: A comparison of American and Chinese college students. *Communication Research, 40*, 623–644. doi:10.1177/0093650211433826
- Feng, B., & MacGeorge, E. L. (2010). The influences of message and source factors on advice outcomes. *Communication Research, 37*, 576–598. doi:10.1177/0093650210368258
- Fuligni, A. J., & Pedersen, S. (2002). Family obligation and the transition to young adulthood. *Developmental Psychology, 38*, 856–868. doi:10.1037/0012-1649.38.5.856
- Goldsmith, D. J. (2004). *Communicating social support*. New York, NY: Cambridge University Press.
- Goldsmith, D. J., & Fitch, K. (1997). The normative context of advice as social support. *Human Communication Research, 23*, 454–476. doi:10.1111/j.1468-2958.1997.tb00406.x

- Goldsmith, D. J., & MacGeorge, E. L. (2000). The impact of politeness and relationship on perceived quality of advice about a problem. *Human Communication Research, 26*, 234–263. doi:10.1111/j.1468-2958.2000.tb00757.x
- Guilamo-Ramos, V., Jaccard, J., Dittus, P., & Bouris, A. M. (2006). Parental expertise, trustworthiness, and accessibility: Parent-adolescent communication and adolescent risk behavior. *Journal of Marriage and Family, 68*, 1229–1246. doi:10.1111/j.1741-3737.2006.00325.x
- Guntzviller, L. M., & MacGeorge, E. L. (2013). Modeling interactional influence in advice exchanges: Advice giver goals and recipient evaluations. *Communication Monographs, 80*, 83–100. doi:10.1080/03637751.2012.739707
- Hadley, W., McCullough, M. B., Rancourt, D., Barker, D., & Jelalian, E. (2014). Shaking up the system: The role of change in maternal-adolescent communication quality and adolescent weight loss. *Journal of Pediatric Psychology, 40*, 121–131. doi:10.1093/jpepsy/jsu073
- Hayes, A. F. (2013). *An introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.
- Kahn, E. B., Ramsey, L. T., Brownson, R. C., Heath, G. W., Howze, E. H., Powell, K. E., . . . Corso, P. (2002). The effectiveness of interventions to increase physical activity: A systematic review. *American Journal of Preventive Medicine, 22*, 73–107.
- Kilpatrick, M., Hebert, E., & Bartholomew, J. (2005). College students' motivation for physical activity: Differentiating men's and women's motives for sport participation and exercise. *Journal of American College Health, 54*, 87–94.
- Lau, R. R., Quadrel, M. J., & Hartman, K. A. (1990). Development and change of young adults' preventive health beliefs and behavior: Influence from parents and peers. *Journal of Health and Social Behavior, 31*, 240–259.
- Lim, T. S., & Bowers, J. W. (1991). Facework: Solidarity, approbation, and tact. *Human Communication Research, 17*, 415–450.
- MacGeorge, E. L., Feng, B., & Burleson, B. R. (2011). Supportive communication. In M. L. Knapp & J. A. Daly (Eds.), *Handbook of interpersonal communication* (4th ed., pp. 317–354). Thousand Oaks, CA: Sage.
- MacGeorge, E. L., Feng, B., Butler, G. L., & Budarz, S. K. (2004). Understanding advice in supportive interactions: Beyond the facework and message evaluation paradigm. *Human Communication Research, 30*, 42–70. doi:10.1111/j.1468-2958.2004.tb00724.x
- MacGeorge, E. L., Feng, B., & Guntzviller, L. M. (2016). Advice: Expanding the communication paradigm. *Communication Yearbook, 40*, 213–243. doi:10.1080/23808985.2015.11735261
- MacGeorge, E. L., Feng, B., & Thompson, E. R. (2008). Good and bad advice: How to advise more effectively. In M. T. Motley (Ed.), *Studies in applied interpersonal communication* (pp. 145–164). Thousand Oaks, CA: Sage.
- MacGeorge, E. L., Guntzviller, L. M., Hanasono, L. K., & Feng, B. (2016). Testing advice response theory in interactions with friends. *Communication Research, 43*, 211–231. doi:10.1177/0093650213510938
- Nelson, M. C., Story, M., Larson, N. I., Neumark-Sztainer, D., & Lytle, L. A. (2008). Emerging adulthood and college-aged youth: An overlooked age for weight-related behavior. *Obesity, 16*, 2205–2211. doi:10.1038/oby.2008.365
- O'Dea, J. A. (2005). Prevention of child obesity: 'First, do no harm.' *Health Education Research, 20*, 259–265. doi:10.1093/her/cyg116

- Olinsky, A., Chen, S., & Harlow, L. (2003). The comparative efficacy of imputation methods for missing data in structural equation modeling. *European Journal of Operational Research, 151*, 53–79. doi:10.1016/S0377-2217(02)00578-7
- Piette, J. D., Heisler, M., Krein, S., & Kerr, E. A. (2005). The role of patient-physician trust in moderating medication nonadherence due to cost pressures. *Archives of Internal Medicine, 165*, 1749–1755. doi:10.1001/archinte.165.15.1749
- Rodgers, R., & Chabrol, H. (2009). Parental attitudes, body image disturbance and disordered eating amongst adolescents and young adults: A review. *European Eating Disorders Review, 17*, 137–151. doi:10.1002/erv.907
- Safran, D. G., Taira, D. A., Rogers, W. H., Kosinski, M., Ware, J. E., & Tarlov, A. R. (1998). Linking primary care performance to outcomes of care. *Journal of Family Practice, 47*, 213–220.
- Schrodt, P., & Afifi, T. D. (2007). Communication processes that predict young adults' feelings of being caught and their associations with mental health and family satisfaction. *Communication Monographs, 74*, 200–228. doi:10.1080/03637750701390085
- Thompson, S., & O'Hair, H. D. (2008). Advice-giving and the management of uncertainty for cancer survivors. *Health Communication, 23*, 340–348.
- Tripathi, R. C., Caplan, R. D., & Naidu, R. K. (1986). Accepting advice: A modifier of social support's effect on well-being. *Journal of Social and Personal Relationships, 3*, 213–228. doi:10.1177/0265407586032006
- Trost, S. G., Sallis, J. F., Pate, R. R., Freedson, P. S., Taylor, W. C., & Dowda, M. (2003). Evaluating a model of parental influence on youth physical activity. *American Journal of Preventive Medicine, 25*, 277–282. doi:10.1016/s0749-3797(03)00217-4
- U.S. Department of Health and Human Services. (2013). *Office of disease prevention and health promotion. Healthy people 2020*. Washington, DC. Retrieved November 1, 2014, from <https://www.healthypeople.gov/2020>
- Wallace, L. S., Buckworth, J., Kirby, T. E., & Sherman, W. M. (2000). Characteristics of exercise behavior among college students: Application of social cognitive theory to predicting stage of change. *Preventive Medicine, 31*, 494–505. doi:10.1006/pmed.2000.0736
- Willoughby, B. J., & Arnett, J. J. (2012). Family communication during emerging adulthood. In A. L. Vangelisti (Ed.), *The handbook of family communication* (2nd ed., pp. 287–301). Mahwah, NJ: Lawrence Erlbaum Associates.
- Wilson, S. R., Guntzville, L. M., & Munz, E. (2012). Persuasion and families. In A. Vangelisti (Ed.), *The handbook of family communication* (2nd ed., pp. 358–376). New York, NY: Taylor & Francis.