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Memorable messages and young adults' sexual beliefs and behaviors

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Memorable Messages and Young Adults' Sexual Beliefs and Behaviors

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Abstract

This study aimed to understand the relationship between college-aged young adults' memorable messages from parents about sex and their sexual beliefs and behaviors. Previously studied memorable message themes from Holman and Koenig Kellas (2018) were adapted to collect quantitative data from respondents ($N = 420$) through an online, self-report questionnaire. Students' recalled conversations with their parent(s) were widely consistent with Holman and Koenig Kellas's (2018) six themes. Ultimately, the memorable message theme was found to have no significant relationship with participants' attitudes, intentions, self-efficacy, or response efficacy for safer sexual behaviors. However, those who recalled messages consistent with the theme of *wait* had significantly higher rape myth acceptance than those who recalled conversations with the theme of *safety* or *comprehensive talk*. Additionally, women were found to have more positive attitudes and higher response efficacy than men for certain safer sexual behaviors, and men were found to have higher rape myth acceptance.

Keywords: Memorable messages, sexual health, sex-talk, rape myth acceptance

Introduction

College-aged young adults are at an elevated risk for sexual health issues including sexually transmitted infections (STIs), unplanned pregnancies, and sexual assault. Young people ages 15-24 account for approximately half of all new sexually transmitted infection (STI) cases each year, despite accounting for only 25% of the sexually active population (Center for Disease Control and Prevention [CDC], 2018). Young adults are particularly at risk for STIs because they are very sexually active but also engage in many sexually risky behaviors, like unprotected sex or sex with multiple partners (CDC, 2018). Young adults are also at elevated risk for unplanned pregnancies, as women ages 18-24 have the highest rate of unplanned pregnancies in the United States (Finer & Zolna, 2016). Additionally, young adults are at high risk of experiencing sexual assault. Of college students, one in five women and one in seven men have experienced forced sex, and 27% of female college students report having experienced unwanted sexual contact (National Sexual Violence Research Center [NSVRC], n.d.).

Given that sexual health and safety is a relevant concern for college-aged adults, the current study further examines the relationship between college students' recalled sexual health conversations with their parents and their current sexual health related beliefs. The study begins by reviewing the literature on parent-child communication (PCC) about sexual health with an emphasis on the memorable message framework and rape myth acceptance.

Literature Review

Parent-Child Communication (PCC) about Sex

There is a wide breadth of evidence demonstrating that PCC about sex translates to safer sex behaviors and attitudes among young adults (Widman, Choukas-Bradley, Noar, Nesi, & Garrett, 2016). Overall, most PCC about sex occurs between mothers and their children, and PCC about sex has the strongest effects on girls' attitudes towards and intentions for safer sex behaviors (Heisler, 2005; Widman et al., 2016). However, young adults feel significantly more comfortable having sex discussions with a parent of the same sex (Heisler, 2005; Wright, 2009). These conversations about sex are strong predictors of condom and contraceptive use (Widman et al., 2016) and even a young adult's likelihood to engage in safer sex communication with an intimate partner (Horan, Morgan, & Burke, 2018). However, prior research on PCC about sex has inquired little about the nature and content of such messages. More recent studies such as Guilamos-Ramos, Lee, and Jaccard (2016) have urged the necessity of studying the content and style of PCC, which the framework of memorable messages makes possible.

Memorable Messages

Stohl (1986) defined a memorable message as a short, oral message that an individual remembers over many years and perceives to have a major impact on the course of his or her life. Research on memorable messages from PCC has demonstrated that such messages can impact the son or daughter's self-concept, communication confidence, and actions (Cooke-Jackson & Rubinsky, 2018). The memorable message framework offers a more insightful way to study PCC about sex specifically because it incorporates both the content of the conversations and the young adult's perspective of the message (Cooke-Jackson & Rubinsky, 2018). Past research on PCC about sex is limited in that it typically relies on only the mere frequency of PCC (Widman et al.,

2016) and the parent's perspective of the conversations (Pariera, 2016; Widman et al., 2016). However, the content and theme of the messages, as perceived by the young adult, can offer a more in-depth understanding of parents' influence on their children's thoughts and behaviors (Holman & Koenig Kellas, 2018). In fact, Holman and Koenig Kellas's (2018) data show that young adults desire and appreciate these conversations with their parents, though satisfaction with—and perceived effectiveness of—these conversations depends on the message's content and theme.

Holman and Koenig Kellas (2018) found that young adults' recalled conversations with their parents could be divided into six categories: (a) *underdeveloped*, (b) *safety*, (c) *comprehensive talk*, (d) *warning/threat*, (e) *wait*, and (f) *no talk*. Conversations characterized as *safety* and *comprehensive talk* (which informed young adults on contraception, pregnancy, and STIs) were not only most preferred and deemed most effective by young adults, but results suggest that these informative and open conversations best reduce sexual risk-taking and permissive attitudes (Holman & Koenig Kellas, 2018). Rubinsky and Cooke-Jackson (2017), who found themes of (a) protection, (b) abstinence, and (c) danger in mother-daughter sex communication, also reported that participants would have preferred their parents to have an open dialogue with them about the positive aspects of sex and how to have healthy sexual relationships. Additionally, Heisler (2005) supported that young adults' satisfaction with PCC increases with the breadth of topics discussed. Likewise, Horan et al. (2018) found that such open, conversational PCC was associated with a greater frequency and satisfaction with the communication.

Current research demonstrates that messages parents send their children about sex affect the child's beliefs, attitudes, and behaviors, and that certain types of conversations are preferred,

but the variety of content and tones of these messages requires more analysis. Open conversation with a breadth of topics engenders the greatest satisfaction from young adults and appears to best reduce their sexual risk-taking (Heisler, 2005; Holman & Koenig Kellas, 2018). Therefore, this study predicted that memorable messages aligning with Holman and Koenig Kellas's (2018) themes of *safety* and *comprehensive talk* would correlate with safer sexual beliefs and behaviors in college students. The following research questions also inquire about the measures college students use for safer sex and the relationship between memorable message type and the respondent's attitudes and intentions.

RQ1: What measures for safer sex do college students record using?

RQ2: How do respondents' attitudes and intentions about safer sexual behaviors differ depending on the themes of parental memorable messages about sex?

H1: Respondents' recalled PCC about sex will align with one or more of Holman and Koenig Kellas's (2018) themes of underdeveloped, safety, comprehensive talk, warning/threat, wait, and no talk.

Self-Efficacy and Response Efficacy for Safer Sex Conversations

Like PCC about safer sex, communication with one's sexual partner also translates into safer sexual behavior, like condom and contraceptive use (Noar et al., 2006; Widman, Noar, Choukas-Bradley et al., 2014). Communicating with a sexual partner about safer sex could include anything from discussing contraception and sexual history to determining consent and sexual desires (Faulkner & Lannutti, 2010). Self-efficacy and response-efficacy are key factors to test when determining if a subject is likely to take a desired action (Witte, 1992), like intimate partner communication. Self-efficacy refers to the subject's perceived ability to execute the action, while response efficacy is his or her perceived effectiveness of the action (Witte, 1992).

College-aged young adults generally do not feel comfortable talking to their sexual partners for a variety of reasons: a lack of experience or conversation scripts, a lack of confidence, or a belief that it insinuates distrust in their partner (Donné, Hoeks, & Jansen, 2017; Faulkner & Lanutti, 2010). Yet, self-efficacy is an important determinant of safer sexual behaviors—the most studied being condom use (DiIorio et al., 2000; Noar, Carlyle, & Cole, 2006). Therefore, determining what affects young adults' self-efficacy for sexual partner communication is critical for a better understanding of this age group's sexual behavior. Studies have shown a connection between PCC and self-efficacy: young adults are more likely to feel comfortable talking to their sexual partner if their parents have talked to them about sex (DiIorio, Dudley, Lehr, & Soet, 2000; Troth & Peterson, 2000). If parents avoid conflict or sex talks with their children, however, their children show more reluctance for safer sex discussions with their sexual partners (Horan et al., 2018; Troth & Peterson, 2000). Studying the theme of PCC memorable messages could produce a clearer understanding of young adults' self-efficacy.

Nonetheless, the link between young adults' self-efficacy and safer sex behaviors is not absolute. Noar and colleagues (2006) note that even if respondents had a high self-efficacy for safer sex communication with their partner, that did not ensure that they felt a high *need* to engage in it. Examining response-efficacy could lend a more robust understanding of whether young adults perceive intimate partner communication to be important and effective, but it is rarely included as a variable in relevant studies. Guilamo-Ramos, Lee, and Jaccard (2016) acknowledge that future research on safer sex behaviors such as condom and contraceptive use must test behavior-specific attitudes to be effective. Measuring response-efficacy for sexual partner communication would, therefore, help resolve the gap in research on young adults' sex communication practices. Given previous research, it was predicted that respondents who

reported themes of *safety* and *comprehensive talk* would report the highest self- and response efficacy (Holman & Koenig Kellas, 2018).

H2: Respondents who recall PCC memorable messages with themes of safety and comprehensive talk will have a higher self-efficacy for sexual partner communication than those who recall messages aligning with underdeveloped, warning/threat, wait, and no talk.

H3: Respondents who recall PCC memorable messages with themes of safety and comprehensive talk will have a higher response-efficacy for sexual partner communication than those who recall messages aligning with underdeveloped, warning/threat, wait, and no talk.

Rape Myth Acceptance

Brownmiller defined rape myths as "attitudes and beliefs that are generally false but are widely and persistently held, and that serve to deny and justify male sexual aggression against women" (as cited in Arnowitz, Lamber, & Davidoff, 2012, p. 175). The rape myth scale tests acceptance using short phrases like "If a girl doesn't say 'no' she can't claim rape," (McMahon & Farmer, 2011, p. 77) similar to that of a memorable message. Yet, despite this connection and the strong association between rape myth acceptance and sexual aggression towards women (Suarez & Gadalla, 2010), few scholars have investigated rape myth acceptance in relation to memorable messages.

Rape myth acceptance has connections with sexual violence (Suarez & Gadalla, 2010) and women's memorable messages about their own bodies (Rubinsky et al., 2018), but little is known about how parental memorable messages about sex correlate with the adult child's rape myth acceptance. For instance, in Rubinsky, Hosek, and Hudak's (2018) study of the body image

memorable messages young girls received from parents, women who perceived the messages positively had a higher rape myth acceptance. However, findings showed no connection between the content of messages and rape myth acceptance or a woman's likelihood to report her sexual assault. Other studies have found that positive, reaffirming messages about sex make young women more likely to disclose sexual assault experiences to their parents, as opposed to negative or uncomfortable messages (Smith & Cook, 2008). Additionally, men overall have been found to report significantly higher rape myth acceptance than women, so the disparity gender creates is one to consider (Arnowitz et al., 2012; Suarez & Gadalla, 2010). Therefore, the present study not only investigated PCC memorable messages' relationship with rape myth acceptance, but also how gender is correlated with rape myth acceptance in this population.

RQ3: How are memorable messages about sex related to college students' acceptance of rape myths?

H4: Men will have a higher rape myth acceptance than women.

Method

Participants and Procedures

A sample of 420 students was recruited from introductory public speaking classes at a mid-sized, southern university. Eligible participants had to: (a) be 18 years of age or older and (b) have lived with their mother and/or father (whether biological, step-, or adoptive parents) since the age of 10.

Most participants ($N = 420$) were female (79.0%) or male (20.2%); transgender and non-binary responses were available (0.2% of respondents were transgender women), but they did not make significantly sized groups. Respondents listed their ethnicities as White (85.5%); Asian (8.3%); Hispanic, Latino, or Spanish-origin (8.1%); Black or African American (5.2%); American Indian or Alaskan Native (1.2%); Hawaiian or Pacific Islander (0.2%); and another, unlisted ethnicity (1%). Participants ranged in age from 18 to 25 ($n = 417$, $M = 18.31$, $SD = .788$) and most were first-year students (90.7%).

Before beginning the survey, respondents first provided their informed consent to participate. The anonymous, self-report questionnaire began with a screening question, since data would only be collected from respondents who had lived with one or more of their biological, step-, or adoptive parents since age ten. The ages 10-12 appear to be the earliest in a child's life when a parent will initiate conversations about sex and sexual health, though few parents report doing so with children this age (Wilson, Dalberth, Koo, & Gard, 2010). Participants who met this qualification then completed all study measures. The survey ended with a demographic questionnaire (see Appendix for complete survey questionnaire).

Measures

Unless otherwise mentioned, all items were measured on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*).

Memorable messages. Holman and Koenig Kellas's (2018) open-ended question asked respondents to describe the most memorable conversation they had with their parent or parents about sex. A question prompted respondents to select one of the six themes (*underdeveloped*, *safety*, *comprehensive talk*, *warning/threat*, *wait*, *or no talk*) from Holman and Koenig Kellas (2018) that best described the conversation they recalled. Students could also select an answer choice that said that none of the six themes described the conversation they had. Overall, however, 93.8% of respondents found that their recalled conversation matched on of the six memorable message themes.

Attitudes. Four items adapted from Hollub, Reece, Herbenick, Hensel, and Middlestadt (2011) measured attitudes for three safer sex behaviors—condom use ($\alpha = .83$, $M = 4.85$, $SD = .48$), sexual history ($\alpha = .88$, $M = 1.96$, $SD = .79$), and last date of STI testing ($\alpha = .89$, $M = 1.23$, $SD = .57$)—on a 5-point Likert scale (e.g., "Talking to my partner about my sexual history is…[bad/good; unhealthy/healthy; unpleasurable/pleasurable]").

Intention. Four items, also adapted from Hollub, Reece, Herbenick, Hensel, and Middlestadt (2011) were used to measure intentions for different safer sex measures (e.g., "Talking to my partner about using a condom is something I intend to do every time I have sex"). Overall, the intention scales demonstrated excellent reliability for the three different behaviors: condom use ($\alpha = .96$, $M = 4.25$, $SD = 1.04$), sexual history ($\alpha = .97$, $M = 3.40$, $SD = 1.11$), and last date of STI testing ($\alpha = .98$, $M = 3.66$, $SD = 1.09$).

Self-efficacy. Self-efficacy was measured with four items (e.g., "Talking to my partner about my last date of STI testing is something I am able to do") adapted from Witte (1994). Each scale tested for one of the three safer sexual behaviors: condom use (α = .84, *M* = 4.12, *SD* = .84), sexual history (α = .80, *M* = 3.61, *SD* = .91), and last date of STI testing (α = .76, *M* = 3.75, *SD* = .86).

Response-efficacy. Also adapted from Witte (1994), these four items provided statements such as "talking to my sexual partner about my sexual history is something that can lead to a healthier sexual relationship." The three response efficacy scales demonstrated excellent reliability: condom use (α = .90, *M* = 4.47, *SD* = .69), sexual history (α = .93, *M* = 4.15, *SD* = .80), and last date of STI testing (α = .95, *M* = 4.31, *SD* = .74).

Rape myth acceptance. These 22 items came from McMahon and Farmer's (2011) rape myth acceptance scale. Example items include, "when girls go to parties wearing slutty clothes, they are asking for trouble." The rape myth acceptance scale was further separated into four subscales: "she asked for it" (α = .87, *M* = 1.62, *SD* = .72), "he didn't mean to" (α = .74, *M* = 2.36, *SD* = .70), "it wasn't really rape" (α = .86, *M* = 1.35, *SD* = .57), and "she lied" (α = .90, *M* = 2.09, *SD* = .86).

Demographics. Lastly, six items assessed the respondent's demographics, sexual orientation, and age of sexual debut. (e.g. "How old were you when you had sex for the first time?")

Results

RQ1 and H1: Safer Sex Methods and Memorable Message Trends

RQ1 inquired about the measures for safer sex that college students record using. Students most frequently reported using oral birth control pills (43.8%) and male condoms (43.3%), though 4.8% recorded using no method of protection. The other frequencies can be found in Table 1.

H1 proposed that respondents would relate to one or more of Holman and Koenig Kellas's (2018) themes for PCC about sex. An analysis of frequencies showed that 93.8% of respondents recalled PCC that aligned with one of the six themes. The most popular theme was *safety* (30.5%), followed by *no talk* (20.7%), *comprehensive talk* (19.0%), and *wait* (11.7%). Only 5.7% of respondents reported *underdeveloped* and 6.0% reported *warning/threat* PCC.

RQ2: Attitudes and Intentions Towards Safer Sexual Behaviors

RQ2 inquired how respondents' attitudes and intentions about safer sexual behaviors differed depending on the themes of parental memorable messages about sex. The research question was assessed by six univariate ANOVAs with memorable message theme (*safety*, *comprehensive talk*, *wait*, and *no talk*) as the independent variable. Because the message themes of *undeveloped* and *warning/threat* produced such small groups, they were eliminated from all ANOVA analyses, as an assumption of ANOVA is approximately equal cell sizes (Field, 2013). For the first three ANOVAS, attitudes for three different types of safer sexual behaviors (condom use, sexual history, and last date of STI testing) served as the dependent variable. No differences were found between the four memorable message types in terms of attitudes for condom use $F(3, 344) = 0.65$, $p = .586$, sexual history $F(3, 344) = 0.71$, $p = .545$, or STI testing date $F(3, 344) = 0.99$, $p = .400$. Three univariate ANOVAs tested memorable message type on

intentions (for condom use, sexual history, and last date of STI testing). Similarly, no differences were found for condom use $F(3, 344) = 0.45$, $p = .715$, sexual history $F(3, 344) = 0.85$, $p = .468$, or STI testing date $F(3, 344) = 0.75$, $p = .524$.

Two gender differences did appear in post-hoc analyses. An independent samples *t*-test was conducted with gender as the independent variable and attitude as the dependent variable. Results demonstrated that male ($M = 4.63$, $SD = .69$) and female ($M = 4.80$, $SD = .54$) respondents differed in their attitudes toward talking to a partner about their last date of STI testing, with women having more positive attitudes, $t(1, 417) = 2.11$, $p = .037$. Additionally, women ($M = 4.09$, $SD = .77$) had a more positive attitude toward talking about sexual history than men ($M = 3.85$, $SD = .87$), $t(1, 417) = 2.26$, $p = .026$. No other gender differences were statistically significant.

H2 and H3: Self- and Response Efficacy for Safer Sexual Behaviors

H2 and H3 posited that respondents who recalled PCC memorable messages with themes of *safety* and *comprehensive talk* would have a higher self-efficacy (H2) and higher response efficacy (H3) for sexual partner communication than those who recalled messages aligning with *underdeveloped*, *warning/threat*, *wait*, and *no talk*. Six univariate ANOVAs tested these hypotheses with memorable message type (*safety*, *comprehensive talk*, *wait*, and *no talk*) as the independent variable and self-efficacy (for condom use, sexual history, and last date of STI testing) and response-efficacy (for condom use, sexual history, and last date of STI testing) serving as the dependent variables. No differences were found between the four memorable message themes in terms of self-efficacy for any of the types of safer sexual behaviors: condom use $F(3, 344) = 2.09$, $p = .102$, sexual history $F(3, 344) = 0.77$, $p = .526$, or STI testing date $F(3, 344) = 1.27$, $p = .284$. The three ANOVAs testing response efficacy as the dependent variable

also found no significant differences for condom use $F(3, 344) = 1.02$, $p = .382$, sexual history $F(3, 344) = 0.61$, $p = .608$, or STI testing date $F(3, 344) = 0.74$, $p = .530$.

Several gender differences appeared in post-hoc analyses, however. An independent samples *t*-test found that women reported significantly higher response efficacy than men for every type of safer sexual behavior. Female ($M = 4.52$, $SD = .65$) respondents reported a significantly higher response efficacy for talking to their partner about condom use than male respondents ($M = 4.27$, $SD = .81$), $t(1, 417) = -2.58$, $p = .011$. In terms of talking to their partners about their sexual history, women ($M = 4.20$, $SD = .79$) reported higher response efficacy than men ($M = 3.92$, $SD = .83$), $t(1, 417) = -2.82$, $p = .006$. Lastly, women ($M = 4.34$, $SD = .75$) reported a higher response efficacy for talking to their partner about their last date of STI testing than men ($M = 4.17$, $SD = .69$), $t(1, 417) = -2.05$, $p = .043$. No other gender differences were statistically significant.

RQ3: Rape Myth Acceptance

The third research question sought to find if memorable messages about sex were related to college students' acceptance of rape myths. Because the overall rape myth acceptance scale is broken into four subscales, four univariate ANOVAs analyzed this research question, with the four memorable message themes serving as the independent variable and each rape myth acceptance subscale serving as a dependent variable. There was a significant difference found between the memorable message themes and the first rape myth acceptance subscale ("she asked for it") $F(3, 342) = 3.13$, $p = .026$. Tukey post-hoc analysis determined a significant difference between the *wait* ($M = 1.90$, $SD = .83$) and *safety* ($M = 1.58$, $SD = .67$) themes ($p = .041$) and the *wait* ($M = 1.90$, $SD = .83$) and *comprehensive* ($M = 1.54$, $SD = .66$) themes ($p = .036$), demonstrating that respondents who had received *wait* memorable messages had significantly

higher rape myth acceptance for the first subscale than their peers who received *safety* or *comprehensive talk* messages. While no other differences were found, the ANOVA analyzing the third subscale ("it wasn't really rape") did approach significance $F(3, 342) = 2.31$, $p = .076$. Tukey post-hoc analysis determined this difference to come from the *no talk* ($M = 1.52$, $SD = .72$) theme correlating with higher rape myth acceptance than the *safety* ($M = 1.33$, $SD = .55$) theme ($p = .095$) for this subscale.

H4: Gender Differences in Rape Myth Acceptance

H4 predicted that men would report higher rape myth acceptance than women. The hypothesis was tested with an independent samples *t*-test with the four rape myth acceptance subscales serving as the dependent variables and gender (male or female) serving as the independent variable. Results supported H4 by revealing that men reported significantly higher rape myth acceptance than women for all four subscales. Men ($M = 2.08$, $SD = 0.77$) reported higher rape myth acceptance than women ($M = 1.50$, $SD = 0.66$) for the "she asked for it" subscale, $t(1, 417) = 6.37$, $p < .001$; likewise, men ($M = 2.59$, $SD = 0.71$) showed higher rape myth acceptance than women ($M = 2.30$, $SD = 0.69$) for the "he didn't mean to" subscale, $t(1, 417) = 3.37$, $p = .001$. Men ($M = 1.68$, $SD = 0.72$) also scored higher than women ($M = 1.27$, $SD = 0.50$) on rape myth acceptance for the "it wasn't really rape," $t(1, 417) = 5.06$, $p < .001$, and the "she lied" subscales, $t(1, 417) = 6.76$, $p < .001$ ($M_{Men} = 2.61$, $SD_{Men} = 0.78$; $M_{Women} = 1.96$, $SD_{Women} = 0.83$). Therefore, H4 was fully supported.

Discussion

The purpose of this study was to examine the relationship between college students' recalled sexual health conversations with their parents and their current sexual health beliefs. While few examples of previous research have centered on memorable messages and sexual health beliefs, this study aimed to extend Holman and Koenig Kellas' (2018) framework into a quantitative study to expose possible connections to self- and response efficacy for safer sex conversations and rape myth acceptance. Overall, no statistically significant associations were found between memorable messages and young adults' attitudes, intentions, self-efficacy, or response efficacy. However, results demonstrated a significant difference in the rape myth acceptance of participants who recalled *wait* messages as opposed to those who recalled *safety* or *comprehensive talk* messages, along with several gender differences in attitudes, response-efficacy, and rape myth acceptance. The following section further discusses the study's main findings, practical implications, and limitations.

This study presented a novel approach to studying PCC because, while past research has connected young adults' comfort in talking to their sexual partner to whether the young adult's parent talked to them about sex, those studies do not consider the nature of the conversation (which the memorable message framework allows). The current study also provided an updated picture of PCC from the perspective of young adults, as many studies on the subject are now reasonably dated (DiIorio, Dudley, Lehr, & Soet, 2000; Troth & Peterson, 2000). By applying Holman and Koenig Kellas' (2018) six message themes in a new, quantitative format, this study examined how the *type* of conversations young adults remember affected their attitudes, intentions, self-efficacy, and response efficacy towards talking to their intimate partner about condom use, sexual history, and their last date of STI testing.

Though message theme did not present any significant differences in these dependent variables, the results did point to the promising accuracy of Holman and Koenig Kellas' (2018) six message themes and bring about some interesting findings on this population's memorable messages. Specifically, not only did the vast majority of respondents (93.8%) find that one of the six themes aligned with their recalled conversation, but also nearly 50% of respondents recorded having a *safety*- or *comprehensive talk*-themed conversation. Holman and Koenig Kellas' (2018) results suggested that these two themes best reduce sexually risky behavior in young adults. In Holman and Koenig Kellas' (2018) study, 23.9% of participants reported an *underdeveloped* conversation—their most frequent result—whereas only 5.7% of respondents in this study reported *underdeveloped* as their theme. It should be noted, however, that Holman and Koenig Kellas's (2018) participants were both high school and college students in the Midwest, as opposed to exclusively students at a southern university, as surveyed in this study. Local culture could play a factor in this difference, as could the possibility that parents may have more developed conversations about sex with their children as they leave for college. That said, 20.7% of this study's participants reported *no talk*, or never having a conversation with their parents about sex. These results demonstrate that while young adults who have talked to their parents about sex are receiving more informative, open, and helpful messages, a large amount are excluded from these conversations—and their demonstrated benefits—altogether.

This study also aimed to resolve the lack of research on the correlation between PCC and the adult child's rape myth acceptance. Results demonstrated a significant relationship between the two; namely, young adults who recalled *wait* memorable messages had significantly higher rape myth acceptance for the first subscale ("she asked for it") than those who recalled *safety* or *comprehensive talk* messages. It is possible that the emphasis on abstinence in *wait* conversations

imparts the importance of modesty, which most of the statements in the "she asked for it" theme violate (i.e. describing a woman in "slutty clothes" or who "acts like a slut"), leading to the correlation between the two. The reason behind this correlation is ultimately unknown, but the finding produces an insight that future studies could further investigate. This finding also serves a practical implication for parent-child communication or any sexual education method. These results may suggest that *wait* messages should be avoided or framed instead with themes of *safety* or *comprehensive talk* to prevent instilling acceptance of rape myths. In the same vein, the results around rape myth acceptance demonstrated that men had a significantly higher rape myth acceptance than women across all subscales, providing further evidence to previous studies regarding gender differences in rape myth acceptance (Arnowitz et al., 2012; Suarez & Gadalla, 2010). Therefore, PCC and other sexual education methods should recognize this well-supported finding and adjust teaching methods for young men to prevent the acceptance of victim-blaming beliefs.

This study produced some other interesting results regarding gender. Women demonstrated higher response efficacy for talking to their partner about every safer sexual behavior (condom use, sexual history, and last date of STI testing) and more positive attitudes towards talking to their partner about their sexual history and last date of STI testing. This means that, more so than men, women perceive these three actions as effective and view two of them as positive, healthy actions. Past research has also found PCC about sex to produce stronger changes in young women's attitudes and intentions (Heisler, 2005; Widman et al., 2016). These findings again point to possible changes that could be made to sex education; perhaps new methods need to be taken to stress the effectiveness and positivity of these safer sexual behaviors when it comes to young men. Future studies could further examine why a difference in attitudes

and response efficacy exists between men and women and whether the type of messaging they received impacted that disparity.

Limitations and Future Directions

Certain limitations within this study are valuable to address. First, there was little diversity within the participants of this study; the majority were white, female, first-year students. Future research could better generalize these findings with a more diverse sample. Second, results may have been influenced by a social desirability bias, causing participants to describe their sexual behaviors as safer or less risky, but more socially favorable, than they actually are. Future studies would benefit from taking measures to reduce this bias, such as asking participants not only about their own behaviors, but how they perceive their peers to behave.

Conclusion

This study aimed to understand the relationship between memorable messages from parents about sex and college-aged young adults' sexual beliefs and behaviors. Previously studied memorable message themes were adapted to collect quantitative data. Ultimately, memorable message theme was found to have no significant relationship with participants' attitudes, intentions, self-efficacy, or response efficacy for safer sexual behaviors. However, those who recalled *wait* memorable messages had significantly higher rape myth acceptance those who recalled conversations with *safety* or *comprehensive talk* themes. Additionally, women were found to have more positive attitudes and higher response efficacy than men for certain safer sexual behaviors, and men were found to have higher rape myth acceptance. These findings could prove useful for forming sex education teaching methods, and future research could explore how memorable message type causes variance in sexual health beliefs between men and women later in life.

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Table 1

Table 1: Safer Sex Methods Used by Students

Table 1 (*N* = 420)		
Method of Protection	***n***	**Percent**
Oral birth control pills	184	43.8
Male condom	182	43.3
No method of protection	20	4.8
Intrauterine device (IUD)	13	3.1
Never had sexual intercourse	8	1.9
Birth control implant	7	1.7
Birth control vaginal ring	6	1.4
Emergency contraception	5	1.2
Birth control patch	4	0.9
Other method	4	0.9
Female condom	3	0.7
Birth control injection	3	0.7
Diaphragm	0	0
Cervical cap	0	0

Note. Percentages do not add up to 100% because respondents had the option to select multiple methods of protection.

Appendix: Survey Questionnaire

Screener Question

1. Have you lived with your mother and/or father (biological, adoptive, or step-parent) since age ten?*
    a. Yes
    b. No

*Participants who selected no were ineglible to complete the survey

Sexual Health Memorable Messages

2. For this question please think about a time when your parent or parents had a conversation with your regarding sex. If your parent or parents have talked about sex more than once, try to remember the conversation that meant the most to you or is the most memorable. Explain the conversation in the text box below.
3. Which of the following descriptions—if any—best summarizes the conversation you described for the last question?
    a. The conversation felt underdeveloped or unfinished—I was not satisfied with the conversation.
    b. The conversation primarily centered on how to protect myself in sexual interactions (e.g., importance of birth control/condoms).
    c. The conversations was comprehensive, covering a variety of topics including sexual intercourse, pregnancy, STIs, contraception, and/or relationships.
    d. The conversations centered around the potential dangers and/or harm of sex (e.g., use of 'scare tactics').
    e. The conversation primarily centered around the importance of waiting before having sex (e.g., until marriage).
    f. No Talk (I did not talk about sex or sexual health with my parents.)
    g. None of the following descriptions adequately describes the conversation I had.

Attitude, Intentions, Self-Efficacy, and Response-Efficacy

Talking to your sexual partner about safer sex measures includes discussing condom use, your sexual history (i.e. the number of sexual partners you have had), your last date of STI testing, and your current STI status.

Attitudes (1 = *strongly disagree* to 5 = *strongly agree*)

4. Talking to my partner about [using a condom/my sexual history/last date of STI testing/current STI status] is:
    - good–bad
    - healthy–unhealthy

- pleasurable–unpleasurable

Intention (1 = *strongly disagree* to 5 = *strongly agree*)

5. Talking to my partner about [using a condom /my sexual history/last date of STI testing/current STI status] something I intend to do the next time I have sex.
6. Talking to my partner about [using a condom /my sexual history/last date of STI testing/current STI status] something I plan to do the next time I have sex.

Self-efficacy (1 = *strongly disagree* to 5 = *strongly agree*)

7. Talking to my partner about [using a condom /my sexual history/last date of STI testing/current STI status] easy for me to do.
8. Talking to my partner about [using a condom /my sexual history/last date of STI testing/current STI status] difficult for me to do.
9. Talking to my partner about [my sexual history/last date of STI testing/current STI status] something I am able to do.

Response-efficacy (1 = *strongly disagree* to 5 = *strongly agree*)

10. Talking to my partner about [using a condom /my sexual history/last date of STI testing/current STI status] is effective in leading to safer sex behaviors (like condom and contraceptive use, etc.).
11. Talking to my partner about [using a condom /my sexual history/last date of STI testing/current STI status] is important for a healthy sexual relationship.
12. Talking to my partner about [using a condom /my sexual history/last date of STI testing/current STI status] is something that can lead to a healthier sexual relationship.

Sexual Risk-Taking

Coded for low vs high risk, with medium risk added when applicable.

13. During the past 3 months, with how many people did you have sexual intercourse?
14. Did you drink alcohol or use drugs before you had sexual intercourse the last time?
    a. I have never had sexual intercourse
    b. Yes
    c. No
15. The last time you had sexual intercourse, did you or your partner use a condom?
    a. I have never had sexual intercourse
    b. Yes
    c. No
16. The last time you had sexual intercourse, what methods did you and your partner use for protection?
    a. Methods were used to prevent pregnancy, but not STIs. (i.e. birth control pills, an IUD, implant, patch, shot, or birth control ring)

b. Methods were used to prevent pregnancy **and** STIs. (i.e. condoms, or condoms in conjunction with birth control pills, an IUD, etc.)
c. No method was taken to prevent pregnancy **or** STIs.
d. I have never had sexual intercourse

17. How would you describe your sexual relationship(s) in the last three months?
    a. I am/have been in a monogamous sexual relationship
    b. I am/have been in a casual sexual relationship with one other person
    c. I am/have been in casual sexual relationships with more than one other person
    d. I am not/have not been in any sexual relationships

Rape Myth Acceptance (1 = *strongly disagree* to 5 = *strongly agree*)

18. If a girl is raped while she is drunk, she is at least somewhat responsible for letting things get out of hand.
19. When girls go to parties wearing slutty clothes, they are asking for trouble.
20. If a girl goes to a room alone with a guy at a party, it is her own fault if she is raped.
21. If a girl acts like a slut, eventually she is going to get into trouble.
22. When girls get raped, it's often because the way they said "no" was unclear.
23. If a girl initiates kissing or hooking up, she should not be surprised if a guy assumes she wants to have sex.
24. When guys rape, it is usually because of their strong desire for sex.
25. Guys don't usually intend to force sex on a girl, but sometimes they get too sexually carried away.
26. Rape happens when a guy's sex drive goes out of control.
27. If a guy is drunk, he might rape someone unintentionally.
28. It shouldn't be considered rape if a guy is drunk and didn't realize what he was doing.
29. If both people are drunk, it can't be rape.
30. If a girl doesn't physically resist sex—even if protesting verbally—it can't be considered rape.
31. If a girl doesn't physically fight back, you can't really say it was rape.
32. A rape probably doesn't happen if a girl doesn't have any bruises or marks.
33. If the accused "rapist" doesn't have a weapon, you really can't call it rape.
34. If a girl doesn't say "no" she can't claim rape.
35. A lot of times, girls who say they were raped agreed to have sex and then regret it.
36. Rape accusations are often used as a way of getting back at guys.
37. A lot of times, girls who say they were raped often led the guy on and then had regrets.
38. A lot of times, girls who claim they were raped have emotional problems.
39. Girls who are caught cheating on their boyfriends sometimes claim it was rape.

Demographic Questions

40. With what gender do you identify?
    a. Male
    b. Female
    c. Transgender male/trans man
    d. Transgender female/trans woman

e. Gender non-conforming/non-binary
f. Other: (please enter)

41. What is your age?
    a. (Type in response)
42. What is your ethnicity? Select all that apply.
    a. Black or African American
    b. American Indian/Alaskan Native
    c. Asian
    d. Hispanic, Latino, or Spanish-origin
    e. White/Caucasian
    f. Hawaiian/Pacific Islander
    g. Other: _____
43. What is your student status?
    a. Freshman
    b. Sophomore
    c. Junior
    d. Senior
44. How old were you when you had sexual intercourse for the first time?
    a. I have never had sexual intercourse
    b. 14 years old or younger
    c. 15 years old
    d. 16 years old
    e. 17 years old
    f. 18 years old
    g. 19 years old or older
45. Which of the following best describes you?
    a. Heterosexual (straight)
    b. Gay or lesbian
    c. Bisexual
    d. Unsure
    e. Other