CSIRO PUBLISHING
Sexual Health
https://doi.org/10.1071/SH20221

Social self-efficacy and sexual communication among adolescents in the United States: a cross-sectional study

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Abstract. ***Background*:** Sexual communication between partners is associated with safer sex behaviours, including condom use among adolescents. Several studies have found a relationship between negative psychological constructs (e.g. depression, anxiety) and poor sexual communication; however, scant research exists regarding *positive* psychological constructs and their potential to promote effective sexual communication among adolescents. This study examined the association between a positive construct, social self-efficacy – a person's belief in their ability to successfully manage social relationships – and three components of sexual communication: sexual assertiveness, self-efficacy for communication, and frequency of sexual communication with dating partners. ***Methods*:** Data were collected in a cross-sectional survey from 222 high school girls in a rural school district in the south-eastern United States (M_{age} = 15.2; 38% White, 29% Latina, 24% Black; 50% were in a dating relationship in the past 3 months). Variables were measured with Likert-type scales. Bivariate correlation and regression analyses were conducted. ***Results*:** Social self-efficacy was significantly positively associated with sexual assertiveness and sexual communication self-efficacy for all girls, and there was a positive trend in the relationship between social self-efficacy and communication frequency among the subsample of girls who had a dating partner. The significant relationship with sexual assertiveness (β = 0.22, s.e. = 0.07, P = 0.001) and sexual communication self-efficacy (β = 0.17, s.e. = 0.04, P = 0.013) remained when controlling for sexual activity status. ***Conclusions*:** Strengthening social self-efficacy may enhance girls' sexual communication and assertiveness skills. Future studies are needed to confirm the causal and temporal nature of these associations.

Keywords: adolescent sexual health, sexual communication, social self-efficacy, sexual assertiveness, safer sex, sexual behaviours, teenagers, positive/negative psychological constructs.

Received 13 December 2020, accepted 5 February 2021, published online 30 April 2021

Introduction

Adolescents in the south-eastern United States are at high risk for adverse sexual health outcomes, including sexually transmissible infections (STIs) and unintended pregnancy.[1–3] Nearly half of sexually active high school students in the United States did not use a condom the last time they had sex – leaving them at high risk for STIs, including HIV.[4] Preventing STIs is important as they can cause long-term health problems including pelvic inflammatory disease, infertility, tubal or ectopic pregnancy, cervical cancer, and perinatal or congenital infections to infants born to women with STIs.[5] Additionally, if left untreated, STIs can increase an adolescent's future risk of contracting HIV.[5] Sexual communication between partners is critical for increasing the consistency of condom and contraceptive use among adolescents and, thus, preventing these adverse sexual health outcomes.[6–9] Sexual communication is also related to sex-positive constructs, such as sexual wellbeing and satisfaction,[10,11] as well as decreased sexual risk-taking throughout the lifespan.[8,12–14] Thus, understanding how to bolster sexual communication between dating partners may be a possible strategy for improving sexual health outcomes among adolescents.

There is a sizeable body of literature examining the factors that contribute to adolescents' abilities to effectively communicate about sex with their romantic partners (for reviews, see[10,15–19]). This research has shown that factors related to adolescents' families, relationship characteristics, and individual attributes can contribute to their sexual communication comfort and ability. For example, greater parent–child sexual communication frequency, as well as higher-quality parent–child sexual communication (e.g. openness, respect, comfort) are associated with increased partner sexual communication and safer sex behaviours among adolescents.[20–24] Further, partner trust and relationship commitment have been connected to greater sexual

communication within intimate relationships.[25–27] Finally, with respect to individual attributes, several studies have focussed on the links between negative psychological characteristics, such as depression and anxiety, and shown that these states can hamper sexual communication and sexual health outcomes.[28–32] However, within this body of work, few studies have explicitly used a strengths-based approach to examine *positive* individual attributes and their potential to promote effective communication among adolescents in sexual relationships. Research in the field of positive psychology demonstrates that positive psychological constructs (e.g. self-efficacy, wellbeing, optimism) can act as buffers against illness and risky health behaviours.[33–36] As such, determining what positive psychological factors are related to increased sexual communication is an important and understudied avenue for preventing STIs and improving adolescent sexual health.

One positive psychological construct, self-efficacy, describes a person's confidence and belief in their ability to influence events that affect their life.[37] Self-efficacy has been shown to influence both the adoption of healthy behaviours, as well as the cessation of unhealthy behaviours.[36,38,39] Therefore, many health behaviour theories (e.g. Theory of Planned Behavior;[40] Health Belief Model[41]) include self-efficacy as a component that is critical for changing and maintaining health behaviours.[42]

Social self-efficacy is self-efficacy in the social domain and refers to a person's confidence in their ability to successfully initiate, engage, and maintain interpersonal relationships.[43,44] Existing research suggests that social self-efficacy may be an important part of the adolescent developmental process, particularly in the context of social behaviours.[45] For example, social self-efficacy has been positively associated with general cognitive, affective, and behavioural communication skills among adolescents in addition to constructive problem solving skills.[46] Additionally, social self-efficacy has been shown to be significantly correlated with positive components of self-concept including perceived social acceptance, self-worth, cognitive and physical competence, and global self-esteem.[47,48] Conversely, low social self-efficacy has been associated with adverse mental health and social experiences among adolescents, including self-doubt, anxiety, and depression.[47,48]

The purpose of this study was to examine the association between social self-efficacy and adolescent sexual communication. Few studies have examined how social self-efficacy is related to health behaviours and none, to our knowledge, have examined the association between social self-efficacy and sexual communication skills among adolescents. Given that social self-efficacy is positively associated with general communication skills and positive social interactions, in addition to a positive self-concept,[46,47] investigation is warranted as to how social self-efficacy relates to adolescent sexual communication skills. Understanding the association between social self-efficacy and sexual communication skills is important, as social self-efficacy is a positive characteristic that could be incorporated into sexual health programs to improve adolescent sexual communication.

In this study, we examine three important components of sexual communication that are related to adolescent sexual health: (1) sexual assertiveness; (2) self-efficacy for sexual communication; and (3) the frequency of sexual communication among partners. Sexual assertiveness is a person's ability to confidently communicate their sexual needs, and is related to sexual satisfaction and more consistent condom use among adolescents.[49–51] Self-efficacy for sexual communication is a person's belief that they have the skills and ability to communicate about sex with their partners and provides an indication of potential for future sexual communication.[52] Finally, frequent sexual communication among adolescent partners is associated with greater relationship satisfaction and more consistent contraceptive and condom use during sexual activity, critical for preventing STIs among adolescents.[6,8,12,13]

The current study focuses on the potential link between social self-efficacy and these three facets of sexual communication in a sample of adolescent girls. Girls are often more reliant on verbal sexual negotiation skills than boys[53,54] and they typically show higher levels of social self-efficacy;[44,47] thus, our focus on sexual communication and social self-efficacy may be particularly relevant in this sample. Our hypotheses were that social self-efficacy among girls would be positively and significantly associated with sexual assertiveness, self-efficacy for sexual communication, and the frequency of sexual communication with a partner. We controlled for whether adolescents had ever engaged in sexual activity, given that girls who are sexually active are more likely to report more frequent sexual communication.[8,55,56]

Methods

Recruitment and data collection

Participants were recruited from four rural, low-income high schools in the south-eastern United States to take part in a sexual health intervention.[57] Data from the current study come from the baseline survey before intervention delivery. All 10th grade girls ages 14–17 years old (n = 371) were invited to participate in the study. Of those girls, 229 received written parental consent for the study and 222 girls provided written assent. After parental consent and student assent were obtained, participants completed confidential pre-test surveys using computer-assisted self-interviews in a small-group classroom setting. Computerised assessments have been shown to reduce social desirability biases and increase the validity of self-report data when collecting sensitive data about sexual behaviour from youth.[58,59] Participants were seated with space between seats and assured that their data would remain confidential. The survey took ~45 min to complete and participants were compensated with a US$10 gift card. All study procedures were approved by the University Institutional Review Board.

Measures

Demographics

Participants self-reported their age, race/ethnicity, and sexual orientation. Sexual activity status was assessed with

two items: one that enquired if participants had ever engaged in any sexual activity, including sexual touching, oral sex, and/or intercourse; and a second that enquired if participants had ever engaged in sexual intercourse. These questions about sexual activity explicitly asked participants to report only consensual sexual activity. We also asked if participants had a dating or sexual partner in the past 3 months, defined as a boyfriend/girlfriend, dating partner, or anyone the adolescent had engaged in sexual activity with.

Social self-efficacy

Participants answered eight questions about their social self-efficacy (Table 1). They rated their belief in their ability to navigate social situations on a five-point Likert-type scale from 1 = 'Not at all' to 5 = 'Very well'. This social self-efficacy subscale is part of the validated Self-Efficacy Questionnaire for Children Scale.[43] We averaged the items to create an overall social self-efficacy score (Cronbach's $\alpha = 0.82$), with higher scores indicating greater social self-efficacy.

Sexual assertiveness

Participants answered three statements about their sexual assertiveness (e.g. 'I'm very assertive about the sexual aspects of my life'), using a five-point Likert-type scale from 1 = 'Strongly disagree' to 5 = 'Strongly agree'. These statements come from the Sexual Assertiveness Subscale in The Multidimensional Sexual Self-Concept Questionnaire.[60] We averaged the items to create an overall sexual assertiveness score (Cronbach's $\alpha = 0.69$), with higher scores indicating greater sexual assertiveness.

Self-efficacy for sexual communication

Participants answered seven questions about their self-efficacy for sexual communication (e.g. 'How sure are you that you could talk to your partner about safer sex?'), in which they rated their belief in their ability to communicate about sex on a four-point Likert-type scale from 1 = 'Couldn't do it' to 4 = 'Very strongly'. These seven items are a part of a larger, validated Self-Efficacy for HIV Prevention Scale.[61] We averaged the items to create an overall Self-Efficacy for Sexual Communication score (Cronbach's $\alpha = 0.82$), with higher scores indicating greater communication self-efficacy.

Sexual communication with dating partners

Participants who had a dating partner in the past 3 months answered five questions about their sexual communication with their partner (e.g. 'In the past 3 months, how often have you talked to your partner(s) about how to use condoms?'). They rated their communication behaviour with their partner using a three-point Likert-type scale with 0 = 'Never', 1 = '1–2 times,' or 2 = 'A few or many times'. These five items are part of the validated Adolescent Sexual Communication Scale.[62] We averaged the items to create an overall sexual communication with dating partners score (Cronbach's $\alpha = 0.83$), with higher scores indicating more frequent sexual communication between dating partners.

Analysis plan

First, we conducted descriptive analyses to assess whether measures were normally distributed, characterise the sample, and examine patterns of social self-efficacy, sexual assertiveness, self-efficacy for communication, and frequency of sexual communication with dating partners. Social self-efficacy, sexual assertiveness, and frequency of sexual communication with dating partners were normally distributed and met the assumptions for parametric tests, thus we used parametric tests (e.g. bivariate Pearson's *r* correlation and independent samples *t*-tests) for these variables. Self-efficacy for sexual communication was negatively skewed; therefore, we used non-parametric tests (e.g. Spearman's rank correlation and Mann–Whitney *U*-test) for this variable. Given the known associations between sexual activity and sexual communication,[8,55,56] for each variable, we conducted independent sample *t*-tests or Mann–Whitney *U*-tests to compare if girls who had engaged in sexual activity differed in their scores on social self-efficacy and sexual communication compared with girls who had not engaged in sexual activity.[63] Next, we conducted bivariate Pearson's *r* and Spearman's rank correlations to examine the association between social self-efficacy and the outcome variables, sexual assertiveness, self-efficacy for sexual communication, and sexual communication with dating partners.

To identify possible control variables for the multiple linear regression models, we conducted Pearson's *r* and Spearman's rank correlation analyses between main outcome variables (e.g. sexual assertiveness, self-efficacy for sexual

Table 1. Social self-efficacy scale items and distribution of responses
Possible range for each item = 1 ('Not at all') to 5 ('Very well')

Item	M	s.d.	% who responded 'Very Well'
How well can you express your opinions when other classmates disagree with you?	3.62	1.21	31.4
How well can you become friends with other people your age?	3.70	1.09	29.4
How well can you have a chat with an unfamiliar person?	3.32	1.26	22.6
How well can you work in harmony with your classmates?	3.52	1.09	20.8
How well can you tell other people your age that they are doing something you don't like?	3.56	1.31	32.3
How well can you tell a funny story to a group your age?	3.50	1.40	33.5
How well do you succeed in staying friends with people your age?	3.88	1.08	36.2
How well do you succeed in preventing quarrels with other youth?	3.48	1.12	22.1

communication, and sexual communication) and potential socio-demographic confounders, including ever sexually active, sexual orientation, age, and race/ethnicity. However, only the variable 'ever sexually active' was significantly associated with the main outcome variables. Further, prior literature suggests that girls who are sexually active are more likely to report more frequent sexual communication[8,56] and thus, based on this statistical[64] and theoretical rationale, we decided to only control for whether girls were ever sexually active. Finally, we ran three multiple linear regression models to examine the relationship between social self-efficacy and each of our outcome variables (Model 1 outcome: sexual assertiveness; Model 2 outcome: sexual communication self-efficacy; Model 3 outcome: sexual communication frequency), controlling for whether adolescents had ever engaged in sexual activity in all models. Regression Models 1 and 2 included the full analytic sample and Model 3 was only among the subsample of participants who had a romantic/sexual partner in the past 3 months (n = 111).

Results

Participant characteristics

As shown in Table 2, participants were between the ages of 14 and 17 years (M_{age} = 15.2 years; s.d. = 0.48). The sample was racially/ethnically diverse, including 37.6% White, 29.4% Latina, 24.4% Black, and 8.6% another racial or ethnic identity. Most participants (79.6%) identified their sexual orientation as heterosexual, with the remaining participants identifying as bisexual (12.7%), lesbian/gay (3.6%), or another sexual identity (4.1%). Half of the girls (50.0%) reported having a dating partner in the past 3 months. Further, 41.2% had ever engaged in any sexual activity and 23.1% had ever had sexual intercourse.

Descriptive statistics

On average, participants scored above the midpoint on the social self-efficacy, sexual assertiveness, and sexual communication self-efficacy scales, and participants scored slightly below the midpoint on the scale measuring frequency of sexual communication with a dating partner. However, for all scales, a full range of scores was noted. Additionally, on average, adolescent girls who had ever engaged in sexual activity had significantly higher scores for social self-efficacy, sexual assertiveness, and sexual communication with a romantic partner than girls who were not sexually active. There were no differences between sexually active and non-sexually active girls in terms of sexual communication self-efficacy (Table 3).

Associations between social self-efficacy and sexual communication outcomes

As shown in Table 3, bivariate correlations revealed that social self-efficacy was significantly positively associated with sexual assertiveness (r = 0.25, P < 0.001) and sexual communication self-efficacy (r = 0.13, P = 0.007) for all girls, and there was a positive trend in the relationships between social self-efficacy and communication frequency

Table 2. Description of participant characteristics

In a relationship, had a dating partner in the past 3 months; ever sexually active, ever engaged in sexual activity (sexual touching, oral sex, intercourse)

Descriptives	*n*	%
Race/Ethnicity[A]		
White	83	37.6
Latina	54	29.4
Black	65	24.4
Another racial or ethnic identity	19	8.6
Sexual orientation[A]		
Heterosexual	176	79.6
Bisexual	28	12.7
Lesbian	8	3.6
Another sexual identity	9	4.1
In a relationship[B]	111	50.0
Ever sexually active[A]	91	41.2
Age[B] M (s.d.)	15.24	0.48

[A]Total n = 221.
[B]Total n = 222.

Table 3. Bivariate correlations, descriptive statistics, and comparisons by sexual activity status

Sexually active, ever engaged in sexual activity (sexual touching, oral sex, intercourse); SexCom, sexual communication. Pearson's r correlation reported for social self-efficacy, sexual assertiveness, and SexCom frequency. Spearman's rank correlation reported for SexCom self-efficacy. We also compared differences in scales between younger and older teens (e.g. 14- to 15-year-olds vs 16- to 17-year-olds) and found no significant differences. $^{+}P < 0.10$; $^{*}P < 0.05$; $^{**}P < 0.01$; $^{***}P < 0.001$

	Bivariate correlations				Full sample n = 222 M (s.d.)[A]	Sexually active n = 91 M (s.d.)[A]	Not sexually active n = 130 M (s.d.)[A]	Between-group comparison t (d.f.)[B]
	[1]	[2]	[3]	[4]				
[1] Social self-efficacy	–				3.57 (0.79)	3.73 (0.77)	3.46 (0.79)	–2.45 (218)*
[2] Sexual assertiveness	0.25***	–			3.02 (0.84)	3.26 (0.78)	2.85 (0.84)	–3.55 (207)***
[3] SexCom self-efficacy	0.13**	0.14**	–		3.71 (3.29–4.00)	3.71 (3.29–4.00)	3.71 (3.29–4.00)	5814.50
[4] SexCom frequency[C]	0.17^{+}	0.20*	0.31***	–	0.86 (0.63)	0.97 (0.63)	0.67 (0.59)	–2.48 (110)*

[A]M and s.d. reported for normally distributed variables (social self-efficacy, sexual assertiveness, and SexCom frequency); median and interquartile range reported for negatively skewed SexCom self-efficacy.
[B]The t-value and d.f. is reported for normally distributed variables (social self-efficacy, sexual assertiveness, and SexCom frequency); the U-value is reported for the negatively skewed SexCom self-efficacy.
[C]SexCom frequency was only reported among participants who had a dating partner in the past 3 months (n = 111, sexually active n = 65, not sexually active n = 45, missing n = 1).

Table 4. Regression models examining the association between social self-efficacy and three sexual communication outcomes
Sexually active: ever engaged in sexual activity = 1; had not yet engaged in sexual activity = 0. β, standardised β; LL, lower limit; UL, upper limit

	Sexual assertiveness				Communication self-efficacy				Communication frequency			
	β	s.e.	95% CI LL UL	*P*	β	s.e.	95% CI LL UL	*P*	β	s.e.	95% CI LL UL	*P*
Step 1												
Social self-efficacy	0.25	0.07	0.13 0.41	<0.001	0.17	0.04	0.02 0.19	0.013	0.17	0.07	–0.01 0.28	0.070
Step 2												
Social self-efficacy	0.22	0.07	0.09 0.38	0.001	0.17	0.04	0.02 0.19	0.013	0.14	0.07	–0.03 0.26	0.129
Sexually active	0.20	0.11	0.12 0.57	0.003	–0.01	0.07	–0.14 0.13	0.921	0.21	0.12	0.03 0.51	0.026

($r = 0.17$, $P = 0.070$) among the subsample of girls who had a dating partner in the past 3 months.

As shown in Table 4, the results of the first multiple regression model, controlling for whether girls had ever been sexually active, demonstrate that adolescent girls who had higher social self-efficacy were more likely to be sexually assertive in their relationships. For every one unit increase in social self-efficacy, sexual assertiveness increased by 0.23 units (based on the unstandardised β). The overall model was significant, $F(2,205) = 11.84$, $P < 0.001$.

Similarly, there was a significant, positive association between social self-efficacy and self-efficacy for sexual communication, controlling for whether girls had ever been sexually active. For every one unit increase in social self-efficacy, self-efficacy for sexual communication increased by 0.11 units (based on the unstandardised β). The overall second regression model was significant, $F(2,217) = 3.16$, $P = 0.044$.

Finally, among adolescent girls who had a dating partner in the past 3 months ($n = 111$), there was not a significant association between social self-efficacy and sexual communication among romantic partners, while controlling for whether girls had ever been sexually active. However, the overall model was significant, $F(2,108) = 4.30$, $P = 0.016$.

Discussion

Communication between dating partners about sex is an essential component of adolescent sexual health and wellbeing, which is linked to safer sex during adolescence as well as sexual and relational wellbeing throughout the life span.[8,65,66] The purpose of this study was to examine if a positive psychological construct – social self-efficacy – was associated with sexual communication among adolescent girls and could be leveraged to promote adolescent sexual health. We found significant positive relationships between social self-efficacy and both sexual assertiveness and self-efficacy to communicate about sex. However, the relationship between social self-efficacy and the frequency of sexual communication with partners among a smaller sample of girls in a relationship was not significant.

The associations between social self-efficacy and sexual assertiveness and self-efficacy for sexual communication have not been examined before and build upon prior adolescent sexual communication research. Talking about sex can be embarrassing and uncomfortable for youth;[67,68] thus, adolescents who have more social competence and interpersonal skills may feel more confident in their ability and be more able to navigate these challenging conversations. Whereas, adolescents who have less social self-efficacy may doubt their ability to steer conversations about sex in a direction that is comfortable and productive. Adolescents who have higher social self-efficacy – the confidence and skills to engage with their peers in typical social situations – may be able to apply that competence to sexual situations as well and therefore be more likely to effectively communicate about sex with their partners.

Findings from this study elucidating the association between social self-efficacy and sexual communication outcomes can be situated in positive psychology theory and the field of positive health, which examine health assets, or individual-level factors that contribute to positive health behaviours and outcomes.[35] Positive characteristics such as optimism, hope, wellbeing, and in this study – social self-efficacy – are associated with positive health outcomes in adolescents.[36] Given this evidence, positive youth development programs have fostered some of these individual-level factors such as resilience, self-efficacy, belief in the future, and emotional and cognitive competence to improve various health domains (e.g. mental health, reproductive health). Importantly, a systematic review of positive youth development programs focussed on improving adolescent sexual health found that these programs are associated with delayed sexual initiation, decreased frequency of sex, increased use of birth control or condoms, and fewer reported STIs.[69] These programs targeted mediating variables such as prosocial bonding, social competence, self-efficacy, and self-determination – rather than exclusively targeting health-specific variables often emphasised in sexual health programs (e.g. STI/HIV prevention knowledge).[69] These studies show that cultivating positive psychological characteristics in youth can lead to improved sexual health outcomes and provide additional support for the potential benefit of incorporating a social self-efficacy strengthening component into sexual health interventions for adolescents.

Limitations and future directions

Although this study yields valuable information on how the positive psychological construct of social self-efficacy relates to adolescent sexual communication, there are several limitations that must be considered in interpreting our findings. First, only half of the girls in our sample had a dating partner in the past 3 months; thus, the size of our sample

was relatively small for the analysis that examined the frequency of communication with dating partners. This lack of statistical power could explain why we did not find a significant association between social self-efficacy and communication frequency. This study should be replicated with a larger sample of youth in dating relationships. Second, more research is needed to understand whether there are partner-level factors that may impact whether higher levels of social self-efficacy among girls actually leads to risk-reduction behaviours (e.g. condom use). As condom use is often a behaviour controlled by boys,[70] it is possible that in heterosexual couples, it is important for boys to have positive attitudes towards condoms to facilitate the relationship between girls' social self-efficacy and condom use. Third, although our measures of sexual communication captured several important dimensions, such as frequency and confidence, there may be other important aspects of sexual communication that are indicators of whether adolescent conversations about sex are healthy and productive. Future work could examine links between social self-efficacy and additional aspects of communication, such as communication timing (e.g. before vs after the initiation of sexual activity) and quality.[71] Relatedly, our measures of sexual communication were primarily focussed on avoiding risky sexual behaviours and did not capture sex-positive communication topics such as sexual desire, pleasure, and satisfaction.[72] A possible area of future research may be to examine whether social self-efficacy impacts sex-positive communication topics among adolescents.

Additionally, this study used a cross-sectional design, which prevented us from determining causation and directionality, or understanding how social self-efficacy might impact sexual communication over time. An important future direction will be to examine the longitudinal associations between social self-efficacy and communication patterns within adolescent relationships to determine if social self-efficacy is predictive of longer-term sexual health outcomes, including communication and also condom or contraceptive use among sexually active youth. Finally, because our sample included only girls, of which the majority identified as heterosexual; future research examining how social self-efficacy differentially impacts boys' and LGBT+ adolescents' sexual communication skills may be warranted.

Conclusion

As the field moves towards emphasising strengths-based health promotion, additional research is needed to identify positive psychological constructs that promote safer adolescent sexual communication for diverse adolescent groups. Given the findings from this study, including a social self-efficacy-strengthening component within sexual health programs to complement sexual health content (e.g. HIV/STI prevention knowledge, sexual communication skills) for adolescents may be warranted; however, more research is needed to determine how to effectively incorporate this element and for whom it would be most beneficial.

Conflicts of interest

The authors declare that they have no conflicts of interest.

Declaration of funding

This work was supported by the National Institutes of Health under Grants K99/R00 HD075654 and K24 HD069204. This supporting source had no role in preparation of the data, manuscript, or the decision to submit for publication.

Acknowledgements

None.

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Handling Editor: Marian Pitts