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Mapping the protective pathway of emotional intelligence in youth: From social cognition to smoking intentions

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Abstract

The purpose of this study was to test perceptions of the social consequences of smoking as a mediator of the relationship between emotional intelligence (EI) and intentions to smoke cigarettes among youth. Upper elementary school students ($N = 255$, $M_{\text{age}} = 10.9$ years, 49% male) completed measures of EI, verbal intelligence, smoking-related intentions, past behavior, and perceived social consequences. Mediation was tested using the Sobel test. Perceived social consequences was a marginally significant mediator of the impact of total EI on intentions to smoke ($Z = 1.91$, $p = .057$). Follow-up analyses showed that perceived social consequences significantly mediated the effect of 2 EI abilities on smoking intentions: using emotions ($Z = 2.02$, $p = .043$) and managing emotions ($Z = 2.28$, $p = .023$). The results indicate that the role of higher EI in deterring smoking among youth may be related to social processing ability (i.e., greater perceptions of the negative social consequences of smoking). These findings contribute to a growing body of research demonstrating that EI may reduce cigarette smoking among youth by influencing their social perceptions.

Keywords

Emotional intelligence; Smoking; Social perception; Children

1. Introduction

Emotional intelligence (EI) refers to an individual's ability to accurately perceive, use, understand, and regulate emotions (Mayer & Salovey, 1997). EI has been examined in relation to multiple health-related outcomes (Mayer, Roberts, & Barsade, 2008). Lower EI has been associated with engagement in risky health behaviors including unsafe sex (Rivers et al., in press) and alcohol and illegal drug use (Brackett, Mayer, & Warner, 2004; Rivers et al., in press). Among adolescents, EI correlates negatively with tobacco use (Trinidad & Johnson, 2002). Trinidad and colleagues found that adolescents higher in EI were more likely than their lower-EI peers to perceive the negative social consequences of smoking (Trinidad, Unger, Chou, & Anderson Johnson, 2004). These findings suggest that the protective role of EI for smoking may be related to differential processing of social information; however, this model has yet to be tested. Adolescent smoking initiation and

cessation has been linked to peers' smoking status (Hoffman, Monge, Chou, & Valente, 2007), and because adolescents with higher EI tend to be more socially competent (e.g., Rivers et al., 2012), they might evaluate what makes a peer attractive as a friend based on more meaningful and fixed attributes than smoking status. These findings as well as those reported by Trinidad and colleagues (2004) motivated us to test the hypothesis that perceived social consequences mediates the relationship between EI and intentions to smoke cigarettes.

2. Methods

2.1. Participants

Study participants were 255 fifth and sixth grade students ($M_{\text{age}} = 10.9$ years, $SD = 0.71$; 49% male) recruited from 3 Long Island, NY elementary schools as part of a social and emotional learning curriculum evaluation (Brackett, Rivers, Reyes, & Salovey, 2012). The sample was racially and ethnically diverse (58% White, 23% Hispanic, 11% Asian, and 8% African American).

2.2. Procedures

Parental consent and student assent were obtained for all participants, and Yale University's Institutional Review Board approved the study procedures. Eighty percent of the fifth and sixth-grade students from the participating schools had parental permission to participate. The assessments were conducted during class time, 6 weeks prior to the end of the academic year during two, 60-min sessions. Students completed paper-and-pencil measures of verbal intelligence and EI, as well as smoking-related social perceptions, intentions, and past behavior.

2.3. Measures

Students' perceptions of the social consequences of smoking were assessed with four items (e.g., "Smoking cigarettes makes you look cool"), rated on a 1 (disagree a lot) to 5 (agree a lot) scale. Intentions to smoke and past smoking behavior were measured with a single item each, "In the future, do you plan to smoke a cigarette?" and "In the past thirty days, have you smoked at least one cigarette?" respectively (0 = no, 1 = yes). Verbal intelligence was determined using students' percentile ranking on national standardized language and reading tests. EI was measured using the Mayer-Salovey-Caruso Emotional Intelligence Test-Youth Version (MSCEIT-YV; Mayer, Caruso, & Salovey, 2005), a performance assessment divided into 4 sections that correspond to the 4 branches of the ability model of EI (Mayer & Salovey, 1997): perceiving emotion, using emotion to facilitate thought, understanding emotion, and regulating emotion. The test generates 4 subtest scores (Cronbach's alphas ranged from $\alpha = .70$ to $.79$) and an overall EI score (Split-half reliability with Spearman-Brown correction was $.81$). See Table 1 for descriptive statistics.

2.4. Data analysis

To test for mediation, we employed a Sobel test (Mackinnon & Dwyer, 1993). The distribution of responses for the social consequences variable was skewed; therefore, it was dichotomized. The unstandardized regression coefficients for paths *a* and *b* were determined using binary logistic regression. Covariates in all analyses were gender, ethnicity, age, recent smoking behavior, and verbal intelligence. To determine *coefficient a*, perceived social consequences was regressed on EI controlling for covariates and the main effects of EI on intentions. To determine *coefficient b*, intentions to smoke was regressed on perceived social consequences controlling for covariates and EI. Coefficients *a* and *b* were then standardized by multiplying each by the standard deviation of the predictor and dividing the

product by the standard deviation of the outcome variable. We used equations derived from MacKinnon and Dwyer (Mackinnon & Dwyer, 1993) to determine the variance of the variables in the logistic regression used to determine *coefficient b*.

3. Results

The Sobel test examining perceived social consequences as a mediator of total EI on intentions was marginally significant ($Z = 1.91, p = .057$). Follow-up Sobel tests for each MSCEIT subtest indicated that this mediation effect was driven by the impact of 2 components of EI, using and regulating emotion ($Zs = 2.02$ and $2.28, ps = .043$ and $.023$, respectively), on smoking intentions.

4. Discussion

Results supported the hypothesis that participants' perceptions of the social consequences of smoking would mediate the effect of EI on intentions to smoke. Specifically, the ability to use emotions to facilitate thought and to regulate emotions impacted smoking intentions through their influence on social perceptions. This represents a novel contribution to the research examining EI and smoking – and potentially other risky health behaviors – among youth.

According to the ability model of EI, using emotions to facilitate thought includes, among other skills, the capacity for excluding emotions from reasoning when helpful (see Mayer et al., 2008). Using emotions effectively may influence social perception by allowing youth high in this ability to suppress emotions related to the need to fit in with peers when reasoning about risky behaviors. This may lead to more mature, realistic conclusions about the social implications of smoking.

With regard to regulating emotions, highly developed emotion regulation skills allow individuals to prevent, reduce, or enhance specific emotions to achieve situational goals and also to monitor others' emotional responses and assess their efficacy and acceptability (see Brackett, Rivers, & Salovey, 2011). Youth with well-developed emotion management skills may have healthier strategies for handling emotions related to peer acceptance (e.g., anxiety, loneliness) than those without, and thus may perceive engagement in risky behaviors to be a less effective social strategy. Future research could examine more closely the mechanisms by which EI's component abilities influence social cognition in children.

4.1. Limitations

The present study has some limitations, including its cross-sectional and correlational design. Attempts should be made to replicate the findings where there is greater variance in the outcome variable. Due to practical considerations, smoking behavior was measured only with one self-report item. Finally, the need to dichotomize the perceived social consequences variable resulted in the loss of some predictive ability.

5. Conclusions

Despite these limitations, this study tested and found evidence supporting a specific mechanism by which EI may influence smoking intentions among children. These findings reinforce previous research supporting a relationship between EI and social processing with important implications for smoking avoidance among youth (e.g., Trinidad et al., 2004). Interventions aimed at developing children's EI skills as a means of reducing engagement in smoking might be improved by targeting children's social cognitions.

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Table 1

Descriptive Statistics for Emotional and Verbal Intelligence and Perceived Social Consequences (Prior to Dichotomization).

Variable	<i>M</i>	<i>SD</i>	Yes% (<i>n</i>)	No% (<i>n</i>)
Total Score MSCEIT	97.51	14.96	-	-
Perceiving Emotion	97.87	14.82	-	-
Using Emotion	95.33	14.46	-	-
Understanding Emotion	97.28	14.41	-	-
Managing Emotion	100.94	14.74	-	-
Reading, national percentile	58.70	25.49	-	-
Language, national percentile	59.55	25.84	-	-
Perceived social consequences	0.74	1.70	-	-
Intentions to smoke ^a	-	-	8% (20)	92% (221)
Smoking behavior ^b	-	-	1% (3)	99% (239)

Note: *n* = 255 unless otherwise noted.

^a
n = 241.

^b
n = 242.