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Emotion Identification Skill and Social Support During Adolescence: A Three-Year Longitudinal Study

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Abstract

Emotion identification skill (EIS) has been correlated with social support, but little research has examined the extent that EIS is a developmental precursor to supportive relationships. The present study investigated the longitudinal relationships between EIS and social support in adolescence. Participants were 903 (464 males; 439 females) Australian high school students, with 314 participating in all four waves. Students completed questionnaires annually from Grade 9 to Grade 12, including self-report measures of (1) EIS, (2) social support network size, and (3) quality of social support. Cross-lagged structural equation modeling supported a reciprocal influence model, with social support and EIS mutually influencing each other's development. We discuss the implications of this finding for the positive development of EIS and social support.

Social relationships are critical for psychological adjustment and well-being, particularly during adolescence (Collins & Steinberg, 2008; Fordham & Stevenson-Hinde, 1999; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). Thus, it is important to understand the factors that influence social relationships during such a critical developmental period. This study investigated the longitudinal links between social support and emotion identification skill (EIS), a key aspect of emotional competence (e.g., Ciarrochi, Heaven, & Supavadeeprasit, 2008; Kerr, Johnson, Gans, & Krumrine, 2004; Salovey, Mayer, Goldman, Turvey, & Palfai, 2002).

Emotion identification skill is defined as the ability to identify, label, and describe one's emotions (Ciarrochi et al., 2008). Low EIS has been hypothesized to underpin poor mental and physical health (e.g., Corcos et al., 2000; Taylor, Parker, Bagby, & Bourke, 1996) and plays an important role in the development of poor well-being (Ciarrochi, Kashdan, Leeson, Heaven, & Jordan, 2010). Recent research suggests that having low EIS may influence the composition of friendship networks, with girls low in EIS tending to have more male-ori-

ented networks (Rowse, Ciarrochi, Heaven, & Deane, 2014). However, little longitudinal research has examined the role of EIS in the development of positive social support during adolescence. This study assessed EIS and social support four times across 3 years and assessed the extent that EIS was a precursor to the development of social support, a consequence of that support, or both (reciprocal influence).

Social Support in Adolescence

Social support is broadly defined as the assistance and protection that one receives from others, and a social network is the group of people who provide this help and protection (Hinson Langford, Bowsher, Maloney, & Lillis, 1997). Perceived social support is an individual's subjective appraisal that their social network will be helpful and effective when needed (Lakey & Scoboria, 2005).

Perceptions of support in adolescence may be particularly important because although adults may believe that they are being supportive, an adolescent may not think so and may not, consequently, seek support. Adolescents themselves are the only ones who are privy to their unique perception of the support they receive (Furman & Buhrmester, 1992). For example, offers of help are often seen as

intrusive among adolescents who are seeking independence and autonomy.

Social support is associated with key health and well-being factors (see Uchino et al., 1996 for a review), such as decreased depression (Buschmann & Hollinger, 1994), increased self-esteem (Fordham & Stevenson-Hinde, 1999), and reduced emotional problems (Helsen, Vollebergh, & Meeus, 2000).

Interpersonal relationships are of heightened importance during adolescence because they play a critical role with respect to learning how to form and maintain satisfying, long-lasting relationships (Connolly, Furman, & Konarski, 2000) and may be particularly important in protecting against psychosocial problems (Fordham & Stevenson-Hinde, 1999; Helsen et al., 2000). Support from both family and peers are vital during adolescence. Nonetheless, research has found parental support to be a better indicator of positive development than peer support (Greenberg, Siegel, & Leitch, 1983; Nada Raja, McGee, & Stanton, 1992).

Emotion Identification Skill

Emotion identification skill is an essential component of emotional competence (Buckley & Saarni, 2006; Ciarrochi, Deane, Wilson, & Rickwood, 2002; Saarni, 1999), emotional intelligence (Mayer, Salovey, & Caruso, 2004; Salovey et al., 2002), and meta-emotion (Gottman, Katz, & Hooven, 1996). Each of these areas of study has slightly varying definitions of EIS. For this study, we conceptualized EIS as the ability to identify and describe one's emotions (Ciarrochi et al., 2008). For brevity and consistency with past research (e.g., Ciarrochi et al., 2008; Rowsell et al., 2014), the term EIS was used to conceptualize both factors of identifying *and* describing feelings. This conceptualization is derived from the construct of alexithymia (Bagby, Parker, & Taylor, 1994; Sifneos, 1973), which is most commonly assessed using the Toronto Alexithymia Scale (TAS, Bagby, Parker, & Taylor, 1994; Bagby, Taylor, & Parker 1994). This measure characterizes alexithymia as a deficit in the ability to identify and describe one's emotions and externally oriented thinking. The TAS also has extensive research supporting its reliability and validity (Taylor, Bagby, & Parker, 2003). Given our interest in investigating subjective appraisal of adolescents' ability to understand their own emotions, the TAS was selected for use in the study. During early childhood, EIS is predominantly developed within the context of an attachment relationship with a caregiver. Reciprocal interactions between infant

and caregiver help the infant to understand their emotions, seek support, and sooth themselves (Buckley & Saarni, 2006). This relationship establishes the child's base for developing emotional skills, accessing appropriate support and forming expectations for future social relationships. It is evident that in early life, social relationships influence EIS. However, it is unclear whether social support and relationships continue to influence the development of emotional awareness into adolescence.

Emotion identification skill is associated with positive adjustment and decreased distress (e.g., Kerr et al., 2004; Salovey et al., 2002). Alexithymia is associated with many clinical disorders, such as eating disorders (Taylor et al., 1996), depression (Posse, Hallstrom, & Backenroth-Ohsako, 2002), social phobia, and panic disorder (Cox, Swinson, Shulman, & Bourdeau, 1995).

Emotion identification skill may be particularly important during adolescence because emotional skills are used at this time to navigate transitions to high school, puberty, new relationships, and possible changes in social status (Leyden & Shale, 2012). Those who are more emotionally aware may be more able to deal with emotional difficulties and seek support in socially appropriate ways.

Emotion Identification Skill and Social Support

Emotion identification skill may be crucial for the development and maintenance of interpersonal relationships. Difficulty with identifying and articulating emotions is associated with a number of interpersonal problems in adulthood (e.g., Lumley, Ovies, Stettner, Wehmer, & Lakey, 1996; Spitzer, Siebel-Jurges, Barnow, Grabe, & Freyberger, 2005), but few studies have looked at this in adolescence, particularly over time. Previous research indicates that there is an association between EIS and perceived social support (Ciarrochi, Wilson, Deane, & Rickwood, 2003; Ciarrochi et al., 2008; Lumley et al., 1996), but there is little longitudinal research clarifying the temporal ordering of these variables.

The majority of past research is cross-sectional, with few assessing EIS and social support in adolescence over time. These studies provide somewhat inconsistent results. In one study, self-reported ability to describe one's emotions has been related to social support, but self-reported identification of one's emotions and a performance-based emotional awareness was not (Ciarrochi et al., 2002). Low EIS has been correlated with fewer supportive others and lower quality

social support in adolescence (Heaven, Ciarrochi, & Hurrell, 2010) and predicted decreased perceived quality and quantity of social support from Grade 8 to Grade 9 (Ciarrochi et al., 2008). However, another study found that only quality and not social network size was related to EIS (Ciarrochi et al., 2003). These preliminary links between EIS and social support in adolescence suggest that EIS may be important for social support. Therefore, this study investigates the longitudinal relationships between these constructs over a 3-year period.

The Current Study

Little, if any, research has examined the direction of influence between EIS and social support among adolescents or assessed the stability of these constructs over this time. This study investigates the link between EIS and social support in adolescence over a 3-year period from Grade 9 to Grade 12. Cross-lagged structural equation modeling is used to assess the extent to which EIS is an antecedent to residual changes in social support or a consequence of changes in social support. Gender differences are also investigated, given that past research has found that adolescent girls tend to report higher quantity (Armsden & Greenberg, 1987; Ciarrochi & Heaven, 2008; Furman & Buhrmester, 1992) and quality of social support than boys (Ciarrochi & Heaven, 2008), and EIS predicts friendship nominations for females but not males (Rowell et al., 2014).

METHOD

Participants

Participants were students attending five high schools in a Catholic diocese of New South Wales, Australia, specifically in the city of Wollongong (population approximately 250,000) and the metropolitan area of Southwestern Sydney. Students completed questionnaires annually for 3 years, from Grade 9 ($M = 14.41$, $SD = 0.53$) to Grade 12 ($M = 17.02$, $SD = 0.38$). The total sample of participants was 903 (464 males; 439 females) with 314 (151 males; 163 females) completing all four waves, 556 (267 males; 289 females) completing three, and 786 (393 males; 393 females) completing at least two waves. The mean number of waves completed was 2.83 ($SD = 1.05$).

The distribution of fathers' occupations of the participants at the commencement of the study

approximated that of the national distribution, with slightly more fathers being professionals and semi-professionals. Therefore, participants can be considered middle class. At Time 1 (Grade 9), the occupations of the participants' fathers were distributed as follows: professionals, technicians, or managers (34.8%); laborers, transport, or production (23.2%); trades (21.3%); sales or clerical (10.3%); community services (8.3%); and homemakers (2.1%). For mothers' occupations, 32.9% worked in sales or clerical jobs, 30.6% were professionals, technicians, or managers, 21.8% were homemakers, 9.3% worked in community services, 5.5% in other work roles (e.g., laborers, trades). The majority of participants' parents were married (81.4%), with 13.6% divorced or separated, 2.8% living together, and 1.9% widowed.

At Time 2 (Grade 10), 86.5% of participants indicated that they were Catholic, and these rates dropped to 82.6% and 82.1% in Grade 11 and Grade 12, respectively. Additionally, 19.77% of participants were exposed to a language other than English at home, compared with the national average of 15.8% (Australian Bureau of Statistics, 2006). Due to school absences, school activities, changing schools, or leaving schools for technical training or the workforce, particularly after Grade 10, attrition occurred.

Emotion identification skill. Emotion identification skill was assessed using the two factors of the Toronto Alexithymia Scale (TAS-20, Bagby, Parker, & Taylor, 1994; Bagby, Taylor, & Parker, 1994). This 20-item self-report measure consists of three factors:

(1) difficulty identifying feelings, (2) difficulty describing feelings, and (3) externally oriented thinking. Factors 1 and 2 measure meta-emotional abilities and are highly intercorrelated (Gohm & Clore, 2000). Past research suggests that externally oriented thinking is not reliable in adolescents (Rieffe, Oosterveld, & Terwogt, 2006), has a weak correlation with the first two factors, and does not fit into the same psychometric space (Gohm & Clore, 2000). With this study's focus on EIS rather than thinking style, only the first two subscales were used. This 12-item version of the TAS has been found to be reliable and valid for assessing EIS in adolescence (e.g., Ciarrochi et al., 2002) and distinguished from related traits, such as positive and negative affect (e.g., Heaven et al., 2010). An example item is "I am often confused about what emotion I am feeling." Items were rated on a 5-point Likert scale (*strongly disagree* to *strongly agree*). The TAS-20 is reliable and factorially valid in several

languages and countries (Taylor et al., 2003). The range of possible scores was 4 with a minimum of 1 and maximum of 5. The mean Cronbach's alpha for the 12 items over the four waves was $\alpha = .89$ ($SD = 0.002$) in line with a previous research on adult samples (Cronbach's $\alpha = .81$; $r = 0.77$; $p < 0.01$; Bagby, Parker, & Taylor, 1994; Bagby, Taylor & Parker, 1994). Scores were reversed in such a way that higher scores indicated higher EIS.

Items were parceled in order to be used in latent variable analyses. Three parcels were created; each consisting of four randomly selected items. Item parcels can be advantageous because they are more reliable, normally distributed, and require the estimation of fewer parameters than when using single items (e.g., Coffman & MacCallum, 2005; Kishton & Widaman, 1994).

Social support. The four-item revised version of the Social Support Questionnaire (SSQ; Sarason, Levine, Basham, & Sarason, 1983) was used to measure two facets of perceived social support: social network size and quality. Participants listed the people who they could rely on for support and rated how satisfied they were with the support they received overall using a 6-point Likert scale (*very dissatisfied* to *very satisfied*). An example item is "Who do you feel really appreciates you as a person?" This measure has good internal reliability ($\alpha > .85$; Ciarrochi & Heaven, 2008), test-retest reliability, and predictive and concurrent validity (Sarason et al., 1983), and has been validated in a previous research with adolescents (Ciarrochi et al., 2003). In the present study, the mean Cronbach's alpha for the four social support network size items and four quality of social support items over the four time waves were $\alpha = .90$ ($SD = 0.01$) and $\alpha = .85$ ($SD = 0.03$), respectively.

RESULTS

Preliminary Analyses

Participants who completed all four waves of the study were compared with those who missed at least one wave on EIS, social support network size, and social support quality scores. Missing values analyses revealed only one significant difference. Only EIS in Grade 12 differed significantly between completers ($M_{12} = 3.74$, $SD = 0.80$) and noncompleters ($M_{12} = 3.55$, $SD = 0.83$), $p = .02$, $g^2 = .01$. The effect size for all comparisons was small ($g^2 \leq .01$). In all analyses, full information maximum likelihood estimation (FIML), rather than traditional

approaches, was used to deal with missing data. FIML uses all available information for parameter estimates, which reduces estimation biases (Enders & Bandalos, 2001).

The stability of EIS, social support network size, and quality over the four waves was examined using one-way repeated measures ANOVA. For EIS, there were no significant differences between scores from Grade 9 to Grade 12 (see right side, Table 1).

There was a general trend for social support network size and quality to increase with age (Table 1). For network size, results show that there were differences in scores across time, $F(3,984) = 3.20$, $p = .024$, partial $g^2 = .010$. Pairwise comparisons revealed that in Grade 9 network size ($M = 5.98$, $SD = 2.22$) was significantly lower than in Grade 11 ($M = 6.32$, $SD = 2.17$).

There were differences across years for social support quality, $F(3,927) = 6.72$, $p < .001$, partial $g^2 = .021$. Pairwise comparisons revealed that in Grade 9 quality ($M = 5.31$, $SD = 0.66$) was significantly lower than in Grade 11 ($M = 5.45$, $SD = 0.62$) and Grade 12 ($M = 5.42$, $SD = 0.69$). Additionally, in Grade 10 quality scores ($M = 5.34$, $SD = 0.66$) were significantly lower than those in Grade 11 (see Table 1).

Bivariate correlations were conducted to examine the relationship between EIS, network size, and quality of social support across the school years (Table 1). All correlations between EIS, social support network size, and quality were significant. Correlations between EIS and network size (r ranged between .08 and .29) and quality (r ranged between .19 and .34) were small in magnitude.

Structural Equation Modeling

Mplus 6 was used for structural equation modeling (SEM), specifically autoregressive cross-lag (ACL) modeling, to represent the association between EIS and social support (network size and quality, separately) over the four waves of this study. Maximum likelihood parameter (MLR) estimates were used with standard errors and a chi-squared test statistic that are robust to nonnormality. SEM ACL modeling allows the assessment of temporal ordering of constructs and stability of observed effects. This enables examination of the extent to which EIS predicts the degree and direction of change in social support and vice versa.

Model fit was deemed satisfactory if (a) the solution was well defined, (b) the parameter estimates were in line with their theoretical basis, and (c) the fit indices were adequate, with emphasis on fit indices

that are suitable for larger sample sizes (Marsh, Balla, & McDonald, 1988; McDonald & Marsh, 1990). Three fit indices criteria were used in addition to chi-square due to its sensitivity to sample size: Tucker–Lewis index (TLI) and Comparative fit index (CFI) $> .95$, and root mean square error of approximation (RMSEA) $< .08$ (Cheung & Rensvold, 2002; see Hu & Bentler, 1999, for a review).

Prior to testing the relationship of EIS and social support over time, longitudinal invariance testing of the measures was completed. The baseline model (Model 1) held only the model structure to be consistent across time. If the fit of the baseline model is acceptable, then increasingly restrictive models can be assessed. This was performed to identify the simplest model to best explain the longitudinal relationships between EIS and social support over the four waves. The causal ordering of EIS and social support was of interest, particularly, the extent to which EIS acted as an antecedent to reduced social support network size and quality.

The baseline model (Model 1) allowed the factor loadings, autoregressions, and cross-lags to vary across time, and estimated autoregressions across all lags. Model 2 (i.e., factor loading invariance) was the same as Model 1 with the exception that factor loadings were constrained across time. Model 3 (i.e., factor loading and autoregression invariance) was the same as Model 2 with the exception that autoregressions were also constrained across time. Finally, Model 4 (i.e., factor loading and path invariance) then was identical to Model 3 except that the cross-lags were constrained to be consistent across time as well. Alternative models were compared with the well-fitting baseline Model 1 to assess invariance. Criteria by Che-

ung and Rensvold (2002) and Chen (2007) suggest that evidence for invariance between models occurs if DCFI is $\leq .01$ (this same criterion as used for TLI) and DRMSEA is $\leq .015$.

As can be seen in Table 2, all models meet the criteria for invariance because there is little change in model fit from Model 1. This finding indicates that the factor structure of social support and EIS are consistent over time (measurement invariance), as are the autocorrelations and cross-lag paths (see Figures 1 and 2). Estimates of cross-lags are therefore based on data gathered across all 4 years of the study. Examination of the cross-lags in Model 4 indicates that EIS had a significant and positive effect on residual change in social support network size ($b = .096, p < .001$) and quality ($b = .103, p < .001$). In addition, social support network size ($b = .055, p = .01$) and social support quality ($b = .115, p < .001$) had a significant and positive effect on residual change in EIS. These findings provide evidence for a reciprocal influence between EIS and both aspects of social support over high school.

Demographic variables, specifically parental marital status and fathers' and mothers' occupations, were added to Model 4 to assess whether this changed the model fit or cross-lags. No significant changes were made from this addition to the model. Finally, multigroup analyses were conducted to assess whether these effects were consistent within gender. Two models were compared: one that allowed the effects of gender to differ and the other in which gender effects were fixed to be the same. If there was a significant drop in log-likelihood and change in fit indices, then this would suggest that the relationship between EIS and social support differs between the genders. There was no sig-

TABLE 1
Means, Standard Deviations, and Correlations Between Variables by Grade

Variable	1	2	3	4	5	6	7	8	9	10	11	12	M	SD	N
1 EIS G9	1	.61**	.57**	.56**	.16**	.18**	.23**	.17**	.26**	.27**	.21**	.19**	3.66	0.84	778
2 EIS G10		1	.66**	.57**	.08*	.15**	.22**	.22**	.21**	.29**	.26**	.25**	3.70	0.84	777
3 EIS G11			1	.64**	.18**	.23**	.28**	.20**	.21**	.35**	.29**	.23**	3.76	0.78	565
4 EIS G12				1	.12*	.22**	.29**	.24**	.20**	.30**	.31**	.34**	3.67	0.82	468
5 Network size G9					1	.52**	.47**	.39**	.36**	.30**	.19**	.17**	5.86	2.25	761
6 Network size G10						1	.65**	.49**	.27**	.43**	.27**	.22**	6.22	2.33	833
7 Network size G11							1	.63**	.27**	.34**	.33**	.21**	6.37	2.17	561
8 Network size G12								1	.22**	.34**	.21**	.38**	6.15	2.27	463
9 Quality G9									1	.52**	.37**	.43**	5.33	0.68	769
10 Quality G10										1	.48**	.52**	5.35	0.72	768
11 Quality G11											1	.50**	5.44	0.67	561
12 Quality G12												1	5.40	0.74	462

EIS = emotion identification skill; Network size = social support network size; Quality = social support quality.

* $p < .05$; ** $p < .001$.

nificant change in the fit indices between the models (social support network size: $\chi^2(661) = 933.44$, $p < .001$, CFI = .971, TLI = .967, RMSEA = .03; social support quality: $\chi^2(661) = 918.99$, $p < .001$, CFI = .966, TLI = .962, RMSEA = .029; see Table 2 for comparison). Thus, the reciprocal effects of EIS and social support network size and quality are consistent within males and females.

DISCUSSION

A 4-year, four-wave longitudinal study was conducted to assess the longitudinal association between the development of EIS and social support network size and quality during adolescence. The findings provide evidence for a reciprocal relationship between these constructs. Greater awareness of one's emotions reliably predicted increasing levels of social support network size and quality. Additionally, having a larger social network and better quality social support reliably predicted increasing levels of EIS. These influences were consistent across 3 years during adolescence (Grades 9–12) and gender.

The finding that EIS is associated with perceived social support network size and quality is consistent with previous research (Ciarrochi et al., 2008; Heaven et al., 2010; Kauhanen, Kaplan, Julkunen, Wilson, & Salonen, 1993; Lumley et al., 1996). Previous research indicates that EIS is associated with greater social well-being. For instance, adults who are low in EIS have smaller social networks and fewer close relationships (Lumley et al., 1996; Posse et al., 2002) and fewer social acquaintances and less social contact (Kauhanen et al., 1993). For those in

relationships, difficulty identifying and describing one's emotions is related to poorer intimacy and romantic relationship quality (Foran & O'Leary, 2012). Low EIS is also associated with decreased social sharing of emotions (Pennebaker, Zech, & Rime, 2001) and difficulty regulating emotions when socializing (Spitzer et al., 2005). People who report higher EIS have greater peer acceptance and social competence (Saarni, 1999) and report greater availability of social support (Di Fabio & Kenny, 2012).

There are a number of possible explanations for why EIS predicts greater social support. The adolescents who are more emotionally aware may be better able to recognize when they are emotionally distressed and seek appropriate support. Those high in EIS may have a greater capacity to self-regulate when emotionally distressed and hence have less dependence on external support and more satisfaction with the support they receive. In contrast, those who do not understand their emotions may have more difficulty recognizing when they are struggling emotionally and therefore may not recognize the need to seek support or self-soothe. Not being able to understand their emotions and needs may lead to receiving less than optimal support.

Those high in EIS may have better social skills facilitating the ability to engage social support (increase network size) and get the most out of that support (improve quality, Lumley et al., 1996). They may have the ability to develop and maintain healthy and intimate relationships, leading to closer connections with others and in turn superior overall support. Finally, being aware of one's own emotions is associated with and may be a prerequisite for recognizing emotions in others and developing

TABLE 2
Assessment of the Consistency of Cross-Lag Effects Across Time for Emotion Identification Skill and Social Support Network Size and Quality

Model	χ^2	df	CFI	TLI	RMSEA
Model 1: Factor loadings not constrained to be invariant over time					
Network size	494.85*	294	.977	.970	.027
Quality	464.12*	294	.974	.967	.025
Model 2: Factor loadings constrained to be invariant over time					
Network size	515.07*	309	.976	.971	.027
Quality	465.074*	309	.976	.971	.024
Model 3: Factor loadings and autoregressions to be invariant over time					
Network size	519.01*	313	.976	.971	.027
Quality	463.05*	313	.977	.972	.023
Model 4: Factor loadings and paths invariant over time					
Network size	528.01*	317	.975	.971	.027
Quality	468.859*	317	.977	.973	.023

Note. Network size = social support network size; Quality = social support quality. * $p < .001$.

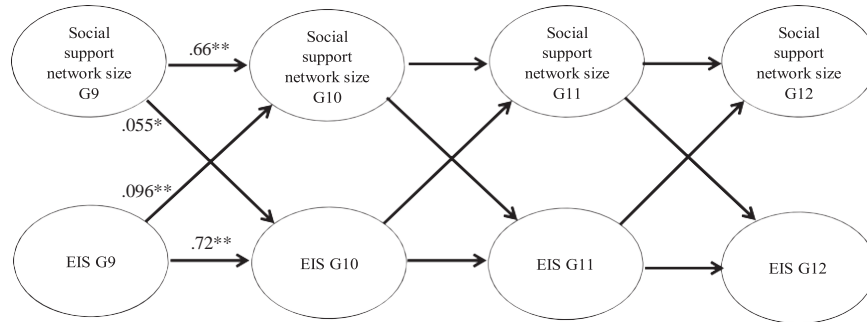


FIGURE 1 Factor loadings and paths invariant over time for emotion identification skill and social support network size. *Note.* EIS = emotion identification skill. Cross-lags and autoregressions were set to be equal over the years in Model 4. * $p \leq .01$, ** $p < .001$.

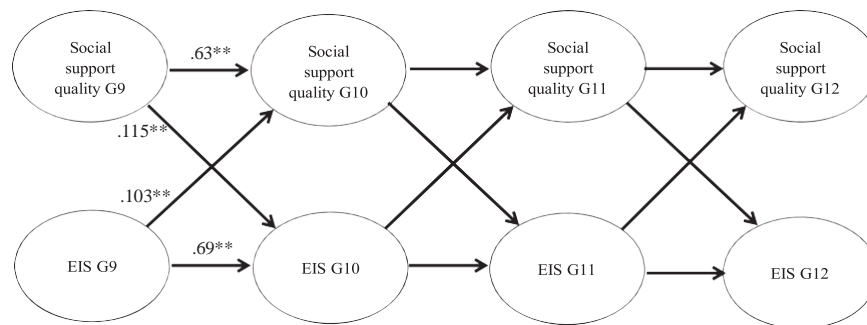


FIGURE 2 Factor loadings and paths invariant over time for emotion identification skill and social support quality. *Note.* EIS = emotion identification skill. Cross-lags and autoregressions were set to be equal over the years in Model 4. ** $p < .001$.

empathy (Moriguchi et al., 2007). Adolescents with these skills may be more appealing to others because of the reciprocity of the social exchange. Consequently, they may develop connections with others more easily, leading to a larger and more sustained social network.

Findings indicated that perceived social support network size and quality predicted increased EIS in adolescence. Prior research has found that social relationships during early childhood influence EIS (Buckley & Saarni, 2006). This study suggests that this influence may continue in later developmental stages, including adolescence. Social support may continue to influence degree of EIS in numerous ways. For instance, supportive others may model emotion regulation skills. Moreover, adolescents may learn about their own emotions by listening to others' self-disclosure and label their emotions. Interactions with supportive others may encourage expression of the adolescent's emotions, thus leading to greater feedback and understanding of their internal experiences. These support people may assist in clarifying and articulating the adolescents' emotions. Finally, the support network may show acceptance of their own and the adolescent's emotions, which

could open the adolescent up to be more aware and curious of their own internal experiences.

The findings are consistent with a reciprocal influence model. Future intervention research is needed to determine the extent that EIS is likely to be a cause of social support and vice versa. Specifically, intervention research can seek to improve EIS and examine the impact of that improvement on the development of social support.

Despite some past research indicating differences in the association between EIS and friendship between the genders (Rowse et al., 2014), no differences were found between the genders for the association between EIS and social support. This highlights the importance of EIS for attaining adequate social support and the importance of social support for developing EIS for both genders.

Implications

This study highlighted the importance of EIS for positive social functioning. It also found that social support is significant for developing EIS. Because EIS and social support are integral for well-being and health (e.g., Kerr et al., 2004; Uchino et al.,

1996), it is important to consider methods for increasing both in order to improve well-being. Thus, targeting EIS would be helpful to increase emotional understanding and assist in accessing adequate social support. Interventions that target parents' ability to provide their adolescent children with social support and those that directly facilitate teenagers' ability to access social support may lead to greater EIS. For example, school-based educational programs aimed at increasing adolescents' emotional and social skills could promote emotional regulation, social competence, and well-being (Brackett, Rivers, Reyes, & Salovey, 2012).

Future Directions and Limitations

This study assessed one component of emotion regulation and one component of social functioning. For a greater understanding of the link between these constructs, future studies could assess the relationship between social support and other components of emotion regulation, and EIS and other aspects of social functioning (e.g., likability, social inclusion, or victimization).

We assessed social support quality overall rather than quality from distinct sources (e.g., friends, family). Therefore, we were not able to assess the association between support quality from separate sources and EIS. Future research could assess the influence of the quality of these sources separately.

Because we were interested in adolescents' ability to identify and describe their emotions, we used only two of the three subscales of the TAS-20. This limits the ability to compare our findings to past research that has used the full scale or other measures of EIS. However, some previous studies have also used the TAS-12, making comparison with those findings possible (e.g., Ciarrochi et al., 2002, 2008; Heaven et al., 2010).

A limitation of this study is its reliance on self-report data. Future research would benefit from the use of objective or performance-based measures, such as the Levels of Emotional Awareness Scale (Lane, Quinlan, Schwartz, Walker, & Zeitlin, 1990).

Even though this study tracked EIS and social support over 3 years, it still used a correlational design. Therefore, causality cannot be determined. The results indicated that EIS and social support rise and fall together over time but there may be explanations other than causal relationships between these variables, which could explain this covariation. For instance, these constructs may shift simultaneously or be influenced by a third variable.

The influence of gender, demographic variables, and changes over time on the longitudinal relationship between EIS and social support was controlled in analyses, but we did not examine the influence of other possible confounding factors, such as anxiety (Cox et al., 1995), depression (Buschmann & Hollinger, 1994), or social skills (e.g., Lumley et al., 2006). This limitation is somewhat mitigated by past research which has found that the relationship between EIS and several aspects of social functioning is distinct and independent of some personality and well-being variables, such as hopelessness (with help seeking, Ciarrochi et al., 2002, 2003), positive affect, negative affect, self-esteem, and trait hope (with social support, Ciarrochi et al., 2008; Heaven et al., 2010; Lumley et al., 2005), and intellectual functioning (with social competence, van Rijn et al., 2011). Therefore, future research should assess the influence of possible confounding variables on this longitudinal relationship. Finally, generalizability of results to individuals of different ages, in other countries, or of other socioeconomic status remains to be determined.

Despite the limitations, the strength of the study was the multiwave, multiyear longitudinal design with a large sample, which allows for a more in depth understanding of the longitudinal nature of this association. The use of structural equation modeling allowed measurement error to be partialled out and the assessment of the directional effect between EIS and social support.

Overall, consistent findings for a reciprocal relationship between EIS and social support network size and quality was found across time and gender. These findings warrant further investigation of this relationship with a focus on assessing for consistency over other adolescent samples, developmental stages, cultures, and countries.

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