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RESEARCH ARTICLE

Emotional Awareness and Internalizing Problems

A Preliminary Test of State and Trait Associations among Adolescents

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Introduction: Difficulties in emotional awareness (EA) are often linked to the risk of internalizing problems (IP). Most empirical studies have found this association but have not considered possible state- and trait-related fluctuations in EA and IP assessments.
Aims: We tested the directionality of the state-level associations, that is, whether EA at Time 1 predicts IP at Time 2 or the other way around. In line with previous research, we hypothesized that low EA would predict a subsequent increase in IP, as difficulties in emotional awareness dispose one to emotional problems. As an alternative model, we tested the trait-level associations between EA and IP. We hypothesized that a negative latent correlation exists between EA and IP, as common factors may cause them to be associated at the trait level.
Methods: Participants were 68 students who completed the Levels of Emotional Awareness Scale and the Strength and Difficulties Questionnaire at two-time points with a one-month interval. We used the Cross-lagged Panel Model to test the state-level associations and structural equation modeling to test trait-level effects.
Results: Results displayed no directional effect of EA on IP, and neither did IP predict EA within one month. However, we found a trait-level correlation between EA and IP. We discuss the preliminary results between state and trait level EA and IP in the context of the early developmental environment.
Conclusions: This study is a preliminary test of state- and trait-level associations between EA and IP, which could be valuable for practitioners and clinicians.

Keywords: levels of emotional awareness, internalizing problems, state-trait differences, early developmental environment.

Introduction

Internalizing problems (IP), such as anxiety and depression, are characterized by overly intense and prolonged emotional experiences accompanied by inefficient and maladaptive regulation of one's internal emotional and cognitive states (Gross & Jazaieri, 2014). A meta-analysis of 21 studies delineated low emotional awareness (EA) as the central process underlying IP (Sendzik et al., 2017). EA refers to the capacity to consciously process, recognize, articulate and differentiate emotions in oneself and others (Lane & Schwartz,1987). Understanding the role

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of such emotional processes on adolescent depression is essential, as this can help to provide focused support and interventions for adolescents who suffer from psychopathology.

Previous longitudinal studies have confirmed the direct and indirect association between EA and IP in multiple ways (Blöte & Westenberg, 2019; McLaughlin et al., 2011; Rieffe & Rooij, 2012; Flynn and Rudolph, 2010; 2014, Stange et al., 2013). Low levels of EA are directly associated with a higher level of IP by sustaining and enhancing negative emotional arousal and by resulting in an inappropriate mental representation of oneself and the situation (Blöte & Westenberg, 2019; Rieffe & Rooij, 2012; Flynn and Rudolph, 2010; 2014, Stange at al., 2013). A lack of emotional understanding facilitates inappropriate, maladaptive judgments, attitudes, and beliefs (Gasper & Clore, 1998; Schwarz & Clore, 1983). EA represents the early stage of the emotion regulation process that indirectly affects IP through emotion regulation strategies (McLaughlin et al., 2011).

Although research has often demonstrated associations between EA and the risk of IP (Rieffe & Rooij, 2012; Stange et al., 2013; Flynn and Rudolph, 2010; 2014), most studies have analyzed the associations without investigating the direction of the state-level association. To the best of our knowledge, only two longitudinal studies have examined the directional association between EA and IP among adolescents. A five-year longitudinal study by Blöte & Westenberg (2019) measured students' (mean age = 13.40 years; 45% girls) emotional clarity and depressive symptoms at three-time points. Their results showed that depression symptoms and low emotional clarity predicted relatively high scores of each other over time. Further study by McLaughlin et al. (2011), measured emotional understanding, anxiety, and depression at a two-time point at seven monthly intervals. Their results showed that low EA predicted increased anxiety symptoms among adolescents but did not predict an increase in depressive symptoms. Also, they found that anxiety and depression did not predict low EA. Altogether, these studies provide evidence for the low EA's significant role in developing adolescent IP.

State and Trait Emotional Awareness

According to the level of emotional awareness model (LEA; Lane & Schwartz, 1987), EA is conceptualized as five levels that develop from the undifferentiated somatic emotional response to a more sophisticated and differentiated one. The five levels are defined in ascending order from the simplest to the most complex: bodily sensations, action tendencies, unidimensional emotions, multidimensional emotions (i.e., blends), multidimensional emotional experience of self and others. The LEA model can be conceptualized as both state- and trait-related constructs (Lane, 2020; Versluis et al., 2018). The current study uses statistical modeling to separate state and trait EA. First, we analyze state EA by building a cross-lagged panel model. Second, we apply a two-factor latent model to analyze trait EA. In the latent factor model, we extract a trait component from the variables assuming that the measurements consist of a trait, a state, and a measurement error variance.

A state-related EA is conceptualized to involve a relatively short time frame and reflects a momentary conscious experience of emotion (i.e., what one feels currently). In contrast, a trait-related construct represents individuals' habitual tendency to act and experience certain emotions (i.e., what one thinks s/he feels in general). From the trait perspective, concepts such as emotional intelligence (Mayer et al., 2003) and emotional flexibility (Bonanno et al., 2004) are highly similar to EA. EA reflects multiple process-related variables from the state perspective, such as experiencing emotion, arousal, expression, and regulation (Lane, 2020). Situational variables strongly influence the state of emotions. The state-related processes may explain the individual differences in trait-EA through three factors: namely, affective response generation processes, affective response representation, and conscious access to underlying emotional experiences.

Individual Differences in Emotional Awareness

Individual differences in state and trait EA may stem from two possible sources. First, individuals differ in the degree of their biological affordance, referring to what individuals' biology offers them as resources for interacting with the environment. For example, an individual's biology offers resources through genetic inheritance and epigenetics, that is, the interaction of the gene with the environment. The second source of individual differences in EA is the learning processes that occur during the developmental years (Smith et al., 2018).

This article applies Smith et al. (2018) framework to view factors that may determine developmental associations between EA and IP in the context of the family environment. Regarding the affect response generation process, the parental evaluation may determine whether adolescents develop more complex appraisals of emotions or only a few ways of appraising emotions (Gottman et al.,1996). Parental emotion coaching is negatively associated

with IP (Shott et al., 2016; Stocker et al., 2007). Regarding the affective response representation, parental discussion about emotions is essential in helping adolescents attend to emotions and acquire broader representations or emotional knowledge (Laible, 2004a, 2004b). Studies have demonstrated that mothers of securely attached preschoolers are more emotionally elaborative in reminiscing past emotional experiences than mothers of insecurely attached preschool children (Laible, 2004b). In addition, studies have found a link between mothers' elaboration and explanation of stressful events and fewer internalizing problems in pre-adolescents (Fivush & Sales, 2006). Individuals also differ in the ways that they consciously access affective information. Different cognitive habits to consciously process, represent, and appraise emotional situations may develop in response to differences in attachment relationships (Main et al., 1985). The ability to process emotional information can protect adolescents from developing depressive symptoms (Stange et al., 2013). Previous studies that support this view provided evidence for the link between appraisal tendency/biases and trait differences in affective responding (see Scherer, 2009; Scherer & Brosch, 2009; Scherer & Ceschi, 2000).

The factors determining the trait-level association between EA and IP may be developed in response to the early developmental environment. A significant body of research found a relationship between parental emotional expressions and the family's emotional climate regarding internalizing problems (Yap & Jorm, 2015; Yap et al., 2014). From an evolutionary perspective, anxiety has evolved to serve an adaptive function of coping with threats and depression in order to cope with losses and interpersonal conflict (Sloman et al., 2006). Altogether, these researches support our study's hypothesis that EA and IP may be trait-like characteristics of one's personality and develop in response to the early developmental environment. Children's emotional experiences (state EA) in the early developmental period may contribute to developing a dispositional tendency to repeatedly experience specific state emotions (trait EA) that may make adolescents more vulnerable to developing IP.

Research Task and Objectives

The general aim of this study is to analyze the associations between EA and IP. We analyze the associations at the levels of states (i.e., longitudinal changes) and traits (i.e., latent factors). First, we test the directionality of the state-level associations, that is, whether EA at Time 1 predicts state IP at Time 2 or the other way around. In line with previous research, we hypothesized that a low EA would predict a subsequent increase in IP, as difficulties in emotional awareness dispose one to emotional problems. As an alternative model, we tested the trait-level associations between EA and IP. We hypothesized that a negative trait-level association exists between EA and IP, as common factors may cause them to be correlated at the trait level. Finally, the study aims to discuss the results in light of the currently available literature on adolescents' early developmental environment. It is noteworthy that due to their phenomenological similarities, we considered anxiety and depression as internalizing problems in this study.

Methods

Participants and Procedure

The data used in this study is obtained from an intervention research designed to enhance emotional awareness. Twelve-year old students were chosen since this is the critical transition time from childhood to adolescence (Spear, 2009). The study data was gathered using convenience sampling; researchers selected participants from sixth-grade elementary school classes at the Tampere University Teacher Training School located in Finland. Researchers obtained ethical permission to conduct the study from the ethics committees of the University of Tampere who approved the research; we provided information about the study to the participants' parents and received their informed consent at the beginning of the research. The participants completed the EA and IP questionnaires during two-time points at one-month intervals. The intervention did not show a statistically significant effect on the IP, ($F(2, 59) = 1.99$, $p = .140$), nor on EA, ($F(2, 61) = 1.12$, $p = .332$). The intervention study included one control group receiving no training and three intervention groups receiving different training regarding their oral and written narrative skills: 1) oral co-narration, 2) literary narrative (for similar intervention study, see; Ghafaryan Shirazi et al., 2021). We used the whole sample from the intervention study to analyze the current study.

Measures

Levels of Emotional Awareness (LEAS-C)

The LEAS-C is a self-report measure assessing levels of emotional awareness, developed for children (Bajgar et al., 2005). The LEAS-C has proved to be a reliable measure (Bajgar et al., 2005; Veirman et al., 2011). It includes 12 evocative interpersonal scenarios involving two people described in a few sentences. Children are asked to answer two questions about how they might feel about the described scenario and how they think the other person might feel the scenarios are organized around four emotions: anger, fear, happiness, and sadness. Three separate ratings are made for each scenario:(1) self, (2) other, (3) total, in which the description of emotions for each person is assigned a level score from 0 to 4. The rating follows the criteria for each 5 levels of emotional awareness. Therefore, for each scenario, there is one "self" score from 0 to 4 and one "other" score from 0 to 4. The total score for each item is the highest of these two ("self" and "other") scores – unless, in the case of the four two-level scores, the respondent receives a score of 5 if the description of emotions follows the guidelines for level 5. Ratings for each scenario are summed to give a maximum possible score out of 60. The test is robust to bias since the response correctness remains independent of the scoring and based on the complexity of emotional words as well as the extent to which these emotions can be differentiated from one another. This study used the total-awareness scores (LEAS-T), and the Cronbach's alpha was $\alpha = .78$.

Internalizing Problems

Internalizing problems were measured on the Strength and Difficulty Questionnaire (SDQ) by Goodman (1997). SDQ includes 25 items on five subscales describing emotional problems, peer problems, behavioral problems, hyperactivity, and prosocial behavior. Each subscale includes five items, and the participants selected from 3-point Likert-type scales (0 = not true, 1= somewhat true, 2 = certainly true) the description that best fitted them. In a low-risk or general population sample, the three-subscale divisions of the SDQ have often been used, including internalizing problems, externalizing problems, and the prosocial scale (Goodman et al, 2010). The internalizing problems score was obtained by summing up the emotional and peer problem scales. The SDQ test demonstrated moderate test-retest reliability (Yao et al., 2009) and strong to satisfactory internal consistency (Yao et al., 2009; Goodman, 2001), although other studies demonstrated low internal consistency (Mieloo et al., 2012). The internal reliability of the children's self-report was $\alpha = .78$ for SDQ total and $\alpha = .79$ for internalizing problems.

Statistical Analyses

To answer our research question about how EA associates with IP, we built both the cross-lagged panel model (CLPM) and the two-factor latent model using the Lavaan package (Rosseel, 2012) in R software. First, the CLPM tested the directionality of the longitudinal associations between EA and IP. The model tested whether EA at Time 1 predicts IP at Time 2 (i.e., cross-lagged effect) when controlling for the stability (i.e., autocorrelation) of IP from Time 1 to Time 2. We also explored the alternative directional association between that IP at Time 1 predicting EA at Time 2.

Second, the two-factor latent model was built to test the trait-level associations between EA and internalizing. The logic behind the model is that a measured variable at the one-time point is assumed to contain a trait, a state, and a measurement error variance. This way, a trait component can be extracted from a state measurement point. Finally, the association between the constructs was tested, examining the latent correlation between the factors. The main difference to the CLPM model is that the model treats time-related changes (i.e., state-level variance) as errors and provides a more stable correlation estimate for the constructs. Robust maximum likelihood (MLR) – estimated and bootstrapped (with 5000 runs) standard errors – was used in the Lavaan package (Rosseel, 2012) to provide unbiased estimates. In all models, the adolescent's gender was used as a covariate.

Results

Descriptive Statistics

The participants consisted of 68 students; Female = 34, Male = 34; average age: 12.20(.37); Min = 12, Max = 13). Table 1 shows the demographic characteristics of the participants. The participants' fathers mainly worked in the manufacturing, production and business industry (26.3%), followed by other industries (10.5%), health (3.5%), and education (5.3%). The rest of the participants' – almost half of the participants (28.1%) – did not know about their parents' occupations. Most participants' mothers worked in the education industry (26.3%). The health (19.3%) and business industry (17.5%) were, respectively, the second and third most popular choice of industry among the participants' mothers. The rest (22.8%) reported that they did not know their parents' occupations, and (8.8%) reported other industries.

Regarding the number of siblings, participants mainly reported having one sibling (38.2%) and two siblings (26%). Only (14.7%) reported having three siblings, and 13.2% reported between four to six siblings.

In terms of the initial level for participants' IP and EA, it is noteworthy that the majority of the participants (82%) reported normal levels of IP symptoms at baseline. Only 8.8% were reported to exceed the cut-off score for having borderline and abnormal symptoms of IP (see more; https://www.sdqinfo.org/). The participants' total EA mean score at baseline was *M(SD)* = 28.88 (6.91), which compared to the total EA's maximum possible score of 60, reveals that participants possessed a slightly less than moderate awareness of their emotions.

Table 1. Study's Demographic Information

Variables	*n*	%
Sex of Children		
Boys	34	50.0
Girls	34	50.0
Father's Occupation		
Education industry	3	5.3
Health industry	2	3.5
Manufacture & Production Industry	15	26.3
Business Industry	15	26.3
I don't know	16	28.1
other Industries	6	10.5
Mother's Occupation		
Education industry	15	26.3
Health industry	11	19.3
Manufacture & Production Industry	3	5.3
Business Industry	10	17.5
I don't know	13	22.8
other Industries	5	8.8
Number of Siblings		
No sibling	5	7.4
one sibling	26	38.2
2 siblings	18	26.5
3 siblings	10	14.7
4–6 siblings	9	13.2

Both the Shapiro-Wilk and Kolmogorov-Smirnov tests of normality results indicated that EA is normally distributed ($p > .001$), but IP is not normally distributed ($p < .001$). There was a significant change in EA scores between Time 1: *M(SD)* = 28.88(6.91) and Time 2: *M(SD)* = 26.77(8.69), $t(61) = 2.51$, $p = .014$. The Wilcoxon signed-rank test showed no significant changes in the IP between Time 1: *M(SD)* = 7.07(2.93) and Time 2: *M(SD)* = 7.06 (2.92), $z = -.12$, $p = .909$.

Table 2. Correlation between study variables controlling for gender

Variables	1	2	3	4
1.EA-T1	–	.79 ***	.06	– .06
2.EA-T2			– .01	– .12
3.IP-T1				.70***
4.IP-T2				–

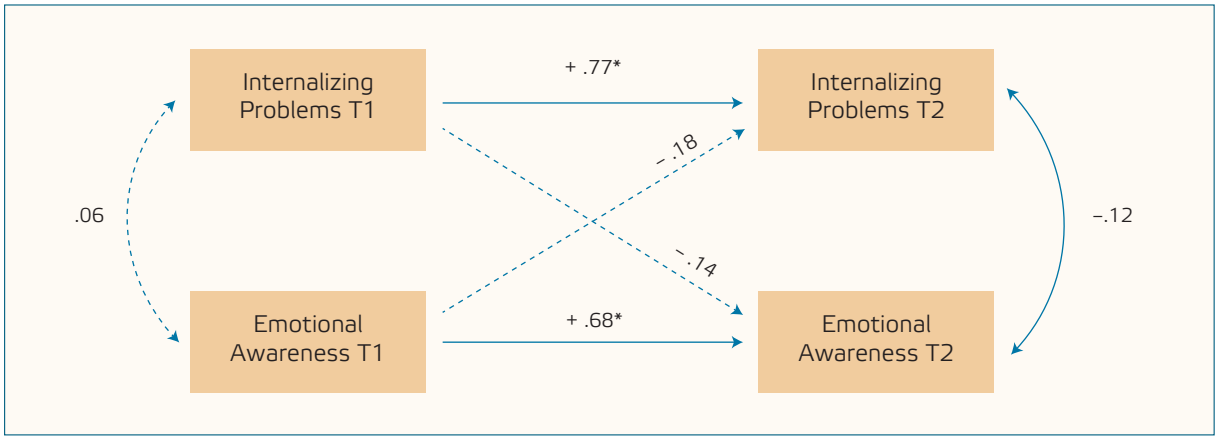
Note. EA: emotional awareness, IP: internalizing problems.
T1 and T2 stand for measured score at Time 1 and Time 2, ***p < .001.

Table 2 illustrates the Spearman correlation between study variables controlling for gender. As you can see, a significant Spearman correlation existed between EA at Time 1 and Time 2, $r\ (61) = .79$, $p < .001$, which reflects the continuity of EA throughout two-time points (autocorrelation). There was a non-significant correlation between EA at Time 1 and IP at Time 1, $r\ (64) = .06$, $p = .607$; and negative non-significant correlation between EA at Time 1 and IP at Time 2, $r(59) = -.06$, $p = .629$. Likewise, EA at Time 2 demonstrated a non-significant negative correlation with IP at Time 1, $r(63) = -.01$, $p = .882$; and similarly for the EA at Time 2 and IP at Time 2, $r(61) = -.12$, $p = .354$. Finally, the adolescents' IP scores from Time1 and Time 2 were highly and positively correlated, $r(61) = .70$, $p < .001$.

Relationships between Emotional Awareness (EA) and Internalizing Problems (IP)

The result from the CLPM exploring the directional association between variables showed no cross-lagged effect of EA on IP, $\beta = -.18$, $SE = .05$, $p = .101$. There was also no cross-lagged effect of IP on EA, $\beta = -.14$, $SE = .31$, $p = .18$. A considerable continuity of time manifested from Time 1 to Time 2 for both EA, $\beta = 0.68$, $SE = .16$, $p < .001$, and IP, $\beta = .77$, $SE = .08$, $p < .001$ (see; Figure 1.). Finally, a state-level negative correlation between EA and IP was apparent at Time 2 ($r = -.33$, $p < .001$), but not at Time 1 ($r = -.21$, $p > .001$). Altogether, the results did not indicate directional effects between EA and IP. The model was fully saturated and thus provided no fit indices.

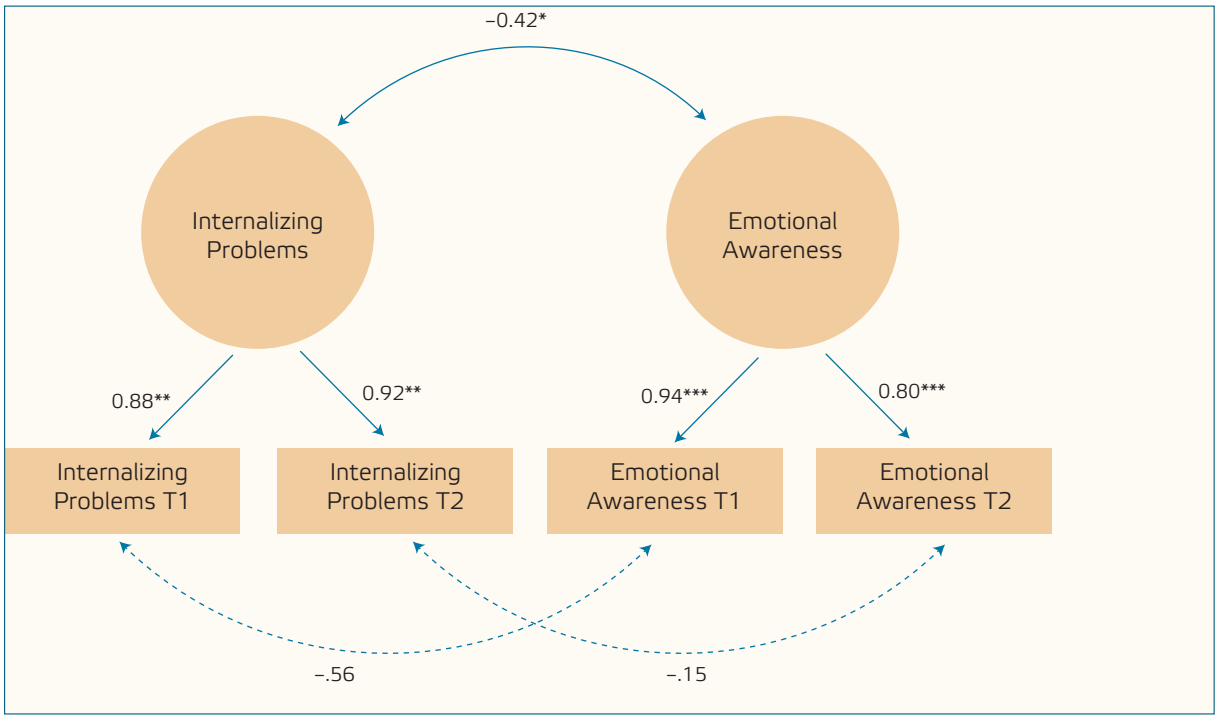
Figure 1. Cross Lagged Panel Model (CLPM) depicting state-related associations between EA and internalizing symptoms



Note. Dashed lines indicate nonsignificant, p > .05, paths. The single-headed arrows represent regressions and double-headed arrows represent the correlation. T1 and T2 denote time 1 and Time 2, *p < .001.

Figure 2 shows the two-latent factor model used to explore the trait-level association. Results displayed a moderate negative correlation between EA and IP, $r = -.42$, $SE = .29$, $p = .029$. The model showed a good fit, $\chi^2(1) = .94$, $p = .335$, $TLI = 0.999$, $CFI = 0.999$, RMSEA = 0.999, $p = .294$, $SRMR = .01$ (Hu & Bentler,1999; Hair et al., 2014). The robust maximum likelihood estimation method mitigated the violations of the normality assumption imposed by the IP variable (Finney & DiStefano, 2006).

Figure 2. Latent two-factor model depicting trait-level associations between EA and internalizing symptoms



Note. Dashed lines indicate nonsignificant, p > .05, paths. The single-headed arrows represent regressions and double-headed arrows represent the correlation. T1 and T2 denote time 1 and Time 2. *p = .029 ; **p = .257 ***p < 0.001.

Discussion

Accumulating evidence suggests that low EA is associated with IP in children. Most empirical studies have detected this association but have not considered state and trait levels in EA and IP assessments (Rieffe & Rooij, 2012; Stange et al., 2013; Flynn & Rudolph, 2010; 2014; Blöte & Westenberg, 2019; McLaughlin et al., 2011). The present study aimed to conduct a preliminary test of both state and trait level associations between EA and IP among adolescents. In the first research task, we explored the direction of the state-level associations between EA and IP. We hypothesized that low EA would predict a subsequent increase in IP, as difficulties in emotional awareness dispose one to emotional problems. Against our hypotheses, however, we found no cross-lagged associations between EA and IP. Yet, the results showed a negative state-level correlation between EA and IP at Time 2 but not at Time 1.

Contrary to our hypothesis, there were no directional associations between EA and IP. In the second research task using the two-factor latent model, we tested the trait-level associations between EA and IP. We hypothesized that a negative latent correlation exists between EA and IP, as common factors may cause them to be associated at the trait level. As expected, we found a moderate trait-level correlation between EA and IP. These results may shed light on the nuances and complex relations between state and trait EA and IP in an early developmental environment.

Surprisingly, our findings showed a lack of cross-lagged state-level associations between EA and IP. The state-level correlation at Time 2 may be the effect of confounding variables such as daily stressors (e.g., having a bad day), leading to a concomitant fluctuation in both EA and IP. The present finding contrasts with previous studies' results that suggested low EA predicts IP (Blöte & Westenberg, 2019; McLaughlin et al., 2011). Although the reason for our finding is not apparent, we deem the complexity of the state EA and IP associations worth considering. For example, being highly aware of one's emotions might have a counterproductive effect on emotional well-being. Relatedly, previous studies have argued that EA involves two correlated but different emotional abilities, which are attention to emotions and emotional clarity (Boden & Thompson, 2017; Subic-Wrana et al., 2014). While speculative, it is possible that excessive attention to emotions heightens IP, whereas

emotional clarity decreases IP. Such mixed effects of these abilities could explain why we found no cross-lagged effect of EA on IP.

It is also worth noting that most previous studies on EA and IP have focused on middle childhood (Flynn and Rudolph, 2010; 2014; Rieffe & Rooij, 2012; Blöte & Westenberg, 2019), and research on adolescence has been scarce (McLaughlin et al., 2011; Stange et al., 2013). Thus, the differences in the age period of focus might be one reason for the discrepancy between our state-level results and the previous studies. In addition, adolescence is a rapid time of socioemotional maturation, and other factors may be more salient for emotional well-being during this period. We acknowledge that larger and more representative samples are needed for the generalization of the result. It is possible that the lack of state-level associations in our study was due to methodological issues. Indeed, we assessed EA and IP at one-month intervals. Accordingly, it is possible that our timespan of one month was too short for capturing significant developmental effects. Further, the participants in our study were sampled from a community population. We deem it possible that EA may have a stronger effect on IP among adolescents with more severe problems. The majority of the study participants had normal levels of IP symptoms and moderate awareness of their emotions. Longitudinal and experimental studies, utilizing both normative and clinical samples, are needed to scrutinize the directional effects between EA and IP among adolescents.

As hypothesized, the results displayed a trait-level association between EA and IP. Considering the lack of directional state-level associations, the association between EA and IP may reflect a common origin of these personality characteristics. Indeed, learning processes during the earlier development can shape children's unique dispositional tendencies to represent, generate, and consciously access emotions that overlap with their vulnerability to develop IP. In other words, both EA and IP may have evolved as developmental responses to the earlier developmental environment. We acknowledge that the temperamental and biological aspects of personality also play an essential role in the development of EA and IP (Munafò et al., 2003). Yet, to stimulate clinical understanding, this article focuses on the learning processes during early development. In the following lines, we bring examples from the early developmental environment to delineate the possible link between trait EA and IP, using Smith et al. (2018) framework.

First, trait EA may be associated with IP through underlying state-related processes of the affective response representation. Studies found a relation between mothers' elaboration and explanation of stressful events and fewer internalizing problems in pre-adolescents (Fivush & Sales, 2006). Second, trait EA may be associated with IP through underlying state-related processes of affective response generation. Prior studies pointed out that individual differences in appraisal tendencies may reflect trait differences in affective responding (see Scherer, 2009; Scherer & Brosch, 2009; Scherer & Ceschi, 2000). Studies revealed a negative association between parental emotion coaching and depression among adolescents (Shott et al., 2016; Stocker et al., 2007). Thirdly, trait EA may be associated with IP through underlying state-related processes of conscious access. For example, adolescents with low EA may habitually avoid or anxiously heighten attention to their emotions and prevent specific cognitive representations from becoming conscious (Thompson, 2014; Dykas & Cassidy, 2011; Mikulincer & Shaver, 2016).

Anxiously attached adolescents tend to ruminate and see themselves as incompetent to alter negative emotional states (Alloy et al., 2010). Bölte and Westenberg (2019) found an association between low EA and high levels of depressive symptoms in pre-adolescents (mean age =13.40). They concluded that the association between low EA and depression might be explained by rumination, resulting from less clarity about negative emotions caused by adolescents' attempts to avoid or suppress threatening emotions. Another study by Rieffe & Rooij (2012) indicated that attention to emotions and analyzing one's emotions are negatively associated with depression while hiding emotions contributed to worry and ruminative thoughts over time in young adolescents (age 10-12). Another study by Stange et al. (2013) investigated the effect of negative inferential style, such as ruminative brooding and deficits in EA, as vulnerability factors for depression in young adolescents (ages 12 and 13). Their study result showed EA as a protective factor that insulates adolescents from the impact of life stress on depressive symptoms. In a series of studies in 2010 and 2014, Flynn and Rudolph investigated the mechanism linking EA to adolescents' depressive symptoms by looking at interpersonal stress responses. Their result demonstrated that a low EA contributes to a maladaptive stress response facilitated by the interruption in deploying resources to adapt and resolve interpersonal stress responses that subsequently exacerbate adolescents' susceptibility to depressive symptoms.

Strengths and Limitations

This study's main contribution is the consideration of state and trait levels in analyzing EA and IP. However, we acknowledge that the current study has several methodological limitations. First, the study sample was very small and reflected a selected part of the population. Thus, the results should be considered preliminary. Additionally, the current study only contains two-time point measurements and small-time intervals. These limitations may, for example, underestimate the cross-lagged effects. More long-term studies can provide more reliable results; thus, this study's results should be considered tentative. Second, the CLPM model has been criticized for not separating the trait and state-level effects (Hamaker et al., 2015). Yet, our limited sample precluded us from conducting more complex statistical analyses. For example, it has been shown that three-time points are needed to differentiate stable trait level effects and within-person change over time. Third, this study used the traditional LEAS method, typically used to assess trait EA. The limitation is that we did not use a more genuine assessment of state-EA (e.g., diary methods; Versluis et al., 2018). Finally, this study should be generalized with caution to other age groups since the sample consisted of only 12 years old students. Yet, we hope our work stimulates further research as the topic has rarely been studied before now. We thus believe that our brief theoretical and conceptual summary is valuable for practitioners and clinicians.

Conclusion, Implications, and Future Directions

The current study aimed to conduct a preliminary test of both state and trait level associations between EA and IP among adolescents. The explanations for the lack of state association could be the mixed effects of EA abilities; i.e., attention to emotions and emotional clarity (i.e., counterproductive effect), and may relate to the methodological limitations of our study. Further, the result displayed a trait-level association between EA and IP. Guided by the Smith et al. (2018) framework, we suggest that trait EA may be associated with trait IP through three underlying state-related processes in the context of early development. Future studies can be designed to elaborate on the associations between state/trait EA and IP by investigating the relative contributions of each of these possible state-related processes outlined by Smith et al. (2018) in the context of early development. Furthermore, researchers can model which EA state processes associated with the emotional aspect of everyday parenting can account for inadequate habits or traits in emotion processing, which subsequently can lead to IP. Researchers recommended using the state-LEAS assessment to investigate whether the accumulation of these state processes can slowly change adolescents' trait-LEAS or not. These researches can also directly test whether and how family experiences (e.g., parental scaffolding, discussions) help to achieve state-LEAS experiences (high EA) and whether these truly lead to trait EA. Finally, researchers can also design interventions focusing on one specific underlying aspect of state-EA; i.e., affect response generation, representation, or conscious access, to examine further which underlying aspects of state-EA enhance trait EA and relieve IP the most.

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Author contribution
Yasaman GHAFARYAN SHIRAZI: conceptualization, design, methodology, investigation, project administration, data management, interpretation, writing original draft, writing review and editing.
Jallu LINDBLOM: formal analysis, writing review and editing.
Raija-Leena PUNAMÄKI: supervision, writing review and editing.
Marianna Yli-PELTOLA: investigation, data management,
Kirsi PELTONEN: conceptualization, design, supervision, writing review and editing.

Declaration of interest statement
The authors declare no conflict of interest.

Ethical statement

The studies involving human participants were reviewed and approved by University of the Tampere ethics committee.
All participants participated in the research voluntarily and anonymously.
The participants provided their written informed consent to participate in this study.
Their data are stored in coded materials and databases without personal data.

Data Availability Statement

The data supporting this study's findings are available to the public.
We have policies in place to manage and keep data secure.

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