

Research Article

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Does Emotional Intelligence Impact an Adolescent Recovery Program?

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Abstract

Adolescents in a substance recovery high school treatment program were found to relapse after returning to regular high school at a rate of 80%. This study looked for factors that may be related to this relapse such as emotional intelligence (EI), attachment, relationship skill, and parental factors including the degree of parental protectiveness and parental spirituality. Results indicated that emotional intelligence is significantly related to an adolescent's ability to develop a healthy positive internal self and may indicate that students who were less able to use emotions to impact their thinking were unable to harness their emotions for problem-solving as shown by increase in relapse rates. Discussion suggests that the addition of training in EI during the treatment program may therefore help reduce relapse rates.

Keywords: Adolescent recovery; Emotional intelligence; Attachment; Parental factors

Introduction

Myriads of treatment programs for adolescents exist using a variety of modalities for recovery. Although outcomes vary, several commonalities have been found in adolescent substance abuse populations. Attachment issues, social and emotional skill deficits, negative perceptions of others, and poor interpersonal relationships are all typical issues that must be addressed for successful recovery. Prior research has suggested that anxiously attached adolescents tend to over-report problems and their pre-occupation may be a hyperactivation of the attachment system in the teen version of a cry of distress [1]. They may be over-reporting symptoms but their parents tend to ignore or disbelieve them which often lead to externalizing behavioral symptoms (drugs, sexual activity, illegal activities...). Teens who internalize problems are more prone to depression and suicidal ideation and have more passive and enmeshed mothers [2]. The dismissive/avoidantly attached adolescents tend to have poor communication skills, are easily led by peers, do not seek emotional support and have higher risk of substance abuse and conduct disorders [3].

Hope Academy is a substance recovery high school at Fairbanks Treatment Center in Indianapolis, Indiana. According to Hope Academy's research, statistically about 80% of students relapse from recovery upon returning to high school after treatment. Hope

Academy offers an accredited high school curriculum coupled to a recovery program with additional targeted therapeutic and supportive services. If the teachers, staff, and therapists were aware of each student's strengths and weaknesses in regards to emotional intelligence and attachment, more targeted recovery coaching and therapeutic interventions could be designed to optimize student sobriety and school success. For the current research study, the MSCEIT and attachment measures were added to the standard assessment package at Hope Academy, so that the resulting deficits could be directly implemented into recovery goals and social skills training as a measurable part of the recovery support program. The relationship between the attachment measures (PBI and ECR-R), the MSCEIT and the measures of spirituality (LCGS/PSQ) will be correlated. Scores from the students' Developmental Asset Profile (DAP) will also be correlated with each measure.

Our current research investigates the role of emotional intelligence, attachment and spirituality in Hope Academy's adolescent recovery program. Long-term predictions are that students who make gains in total emotional intelligence scores after treatment (pre-test-treatment-post-test) will have significantly longer periods of sobriety and greater gains in academic success than those who do not. Recovery interventions include an

educational component on emotional intelligence, re-working a student's internal working model in counseling, dealing with insecure attachment issues, and integrating their current assets to move toward these emotional health goals. For this study, we will be examining the relationship between the clients' presenting problem (drug use), their developmental assets and how those areas relate to attachment, EI and spirituality.

Method

Participants and procedure

There were 49 students of Hope Academy in this study. Each student completed all the measures upon intake to the school. The age of respondents ranged from 12-20 years ($M = 17.49$, $SD = 1.15$). The gender breakdown was 31 males and 18 females. All were single. Ethnicity was 44 Caucasian, 4 African-American and 1 Asian. The age range of first drug use was 7-16 years ($M = 13.05$, $SD = 1.66$). Mean years of drug use was 4.45 ($SD = 1.66$) and most frequent drug of choice was marijuana. 30 of the 49 students were raised by both parents, 7 by the biological mother, 2 by the biological father, 2 by grandmother, 1 by biological father/ step-mother, and the remaining 7 did not report. During the study, 8 students graduated from the program and 3 were expelled. 11 students relapsed once and 21 had multiple relapses.

Materials

Six instruments were used in the data collection for this study: Parental Bonding Instrument Parker G, et al. [4], Parent Spirituality Scale McDonald A, et al. [5], Loving Controlling God Scale Benson P, et al. [6], The Experiences in Close Relationships-Revised Fraley RC, et al. [7], the Mayer Salovey Caruso Emotional Intelligence Test Mayer JD, et al. [8], and the Developmental Asset Profile [9]. Each of these instruments is briefly described below.

Parental bonding instrument: The Parental bonding Instrument (PBI) was used to determine the student's perceived relationship with their parents [9]. The PBI was developed by Parker G, et al. [4] to measure the "bond" between parent and child by the retrospective perceptions of the adult child (our subject). The test is conducted through a paper and pencil self-report, a 25 item measure that separately evaluates attitudes and behaviors of both mother and father. The PBI was based on research findings [10-13], that suggested interpersonal behavior had two underlying components: "affection-hostility" and "dominance-submission" [14]. The PBI has both a "Care" and a "Control/Overprotection" scale. The Care scale involves perceived experiences of parental warmth, empathy, affection, and closeness or emotional coldness, indifference and neglect. The Control scale measures memories of control, intrusion, prevention of autonomy, overprotection or independence and autonomy. Using a 4-point scale, students rate each parent on how they believe the item accurately corresponds to their memories of that parent during their first 16 years.

Parent spirituality scale: Similarly, the Parent Spirituality Scale is a retrospective look at both mother and father's spirituality during a child's developmental years. It is a brief, 7 item scale that assesses parental spirituality and parental hypocrisy in parallel maternal and paternal forms. "Spirituality" examines the closeness

of relationship with God and the desire to grow in that relationship. It evaluates how a parent's life was centered on the spiritual, sacred quality of character. "Hypocrisy" measures how the parent's behavior was inconsistent with his/her stated beliefs. How well did they "practice what they preached", or did they pretend to be what they were not [5]?

Loving Controlling God Scale (LCGS): To measure the student's current (adolescent) view of God, the Loving-Controlling God Scale (LCGS) was used. The LCGS is a brief scale developed to measure loving and controlling God images [6]. The respondent is asked to evaluate 10 pairs of words and rate them on a Likert scale from 0-6. To obtain the Loving God score, scores on five pairs of adjectives were added together. These are rejecting-accepting, loving-hating, damning-saving, unforgiving-forgiving, and approving-disapproving. The Controlling God index includes summing the scores on the remaining adjective pairs: demanding-not demanding, freeing-restricting, controlling-non-controlling, strict-lenient, and permissive-rigid. The maximum score on both scales is 30.

Experiences in close relationships-revised: To determine the students' current attachment patterns in peer and romantic relationships, the Experiences in Close Relationships-Revised (ECR-R) were used [7]. The ECR-R is a 36 item questionnaire revised from the original ECR by Brennan, Clark, and Shaver [15]. The test was designed to assess individual differences with respect to attachment related anxiety, (i.e., the extent to which people are secure or insecure about whether or not their significant "other" is available and responsive), "and attachment related avoidance" (how uncomfortable people feel being close to others vs. securely depending on them) [7]. The ECR-R provides scores on two scales: Avoidance and Anxiety. The avoidance scale looks at discomfort with closeness and dependence. The anxiety scale assesses fear of rejection and abandonment issues. Other research has also shown that romantic attachment is most accurately found on the anxiety/avoidance dimensions [16-18]. Secure individuals have both low anxiety and low avoidance and thus healthier relationships. A recent longitudinal study evaluated 78 individual's relationships from infancy through their mid-20's. They evaluated their infant attachment and then assessed their relationships, social skills and emotions in childhood, early elementary school, adolescence and adulthood. They found that both the experiences and expression of emotions in adult romantic attachments were meaningfully linked to attachment relevant experiences earlier in social development. They also concluded that "expressions of emotion in romantic relationships appear to be tied... to experiences rooted in earlier relationships..." [19].

Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT): Emotional Intelligence (EI) is defined as "the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth" [8]. To put it simply, EI is the "ability to recognize the meanings of emotion and their relationships" [8].

This four part definition was published by Mayer, Salovey, and Caruso [20] and led to the development and publication of the MSCEIT with the four part (branch) model. This model of EI is known as an ability based model because it views emotions as sources of information to help make sense of and navigate the social environment [21]. Just like in intellectual capacities, people vary in their ability to process information, whether it is cognitive or emotional. Since EI is seen as a type of intelligence, the MSCEIT is modeled after ability based IQ tests. It is an individually administered test that measures abilities in each of the four areas as well as providing a total score.

Research on emotional intelligence has demonstrated that people who are higher in EI are less likely to abuse drugs and alcohol, more successful in avoiding interpersonal arguments and fights and have better social support networks [22]. One of the reasons the MSCEIT was chosen for this population was to determine each student's EI so that counselors could build on the deficit areas and strengthen their assets. The authors of the MSCEIT have requested research in determining if teaching emotional knowledge has a positive effect on behavior and whether it would bring changes in EI, so this study begins to address these questions.

MSCEIT branches: The most basic branch is called "Perceiving Emotion". It involves non-verbal reception and expression of emotion such as facial expressions or tone of voice. The test measures the ability to detect and decipher emotions in faces, pictures, voices and cultural artifacts including identifying one's own emotions.

The second branch is "Using Emotions to Facilitate Thought". How do emotions enter in and guide the cognitive thought system? If we respond emotionally, it is usually to something that has demanded our attention and then we direct and prioritize our thoughts to the areas we deem important. This branch measures the ability to harness emotions to facilitate thinking and problem solving. An emotionally intelligent person can understand and use their mood to best fit the cognitive task currently required of them.

The third branch is "Understanding Emotions". Every emotion a person has conveys possible messages and different actions associated with those messages. The test measures the ability to understand emotion and the relationships among them. For example, how we respond to anger might include; fight, flight, freeze, peacemaking, revenge, withdrawal or retribution.

The last area is "Managing Emotions". How well is a person able to regulate emotions in both self and others? Can you secure your emotions and manage them to reach your goals, or do you explode in anger or tears? How comfortable a person is with their own and others emotions, will determine how well they can manage emotions to promote positive goals and feeling in self and others. This is measured on the MSCEIT by "rating the effectiveness of different strategies for regulating one's own feelings in specified situations and managing emotionally challenging interpersonal situations" [23].

The MSCEIT was normed on an adult population but is currently undergoing research trials and this study was a part of the norming

of the Youth Version-Research Edition. This test was designed for 10-18 year olds and is a revision of the previous adolescent emotional intelligence test the Multifactor Emotional Intelligence Scale (MEIS) and is based on the research of the MSCEIT [20]. Although historically the MSCEIT is a reliable and valid instrument these results may need to be interpreted with caution since this version is still in normative research.

Developmental Asset Profile (DAP): When students are admitted to the program at Hope Academy, they are given the Developmental Asset Profile [24]. This assessment provides information about the presence or absence of 40 developmental skill assets that are divided into Internal and External Assets with each category consisting of 4 categories each. These building blocks of development can be used by counselors who are working directly with youth. The External Assets include: Support, Empowerment, Boundaries, and Constructive Use of Time. Internal Assets according to the DAP are: Commitment to Learning, Positive Values, Social Competencies, and Positive Identity.

GAIN and NWEA: Students at Hope Academy also take the Global Appraisal of Individual Needs (GAIN), which identifies behavioral and mental health problems. The counselors can use this as a pre and post measure of the students' behavioral progress during their time at Fairbanks. They also take an academic measure (Northwest Evaluation Association: NWEA) of reading, math, and language usage to determine curriculum and academic progress. At the time of this writing these scores were not available.

Results

The following results include all of the results of our study in which the correlations calculated were all significant at the .05 or the .01 levels of confidence.

MSCEIT and DAP

The total MSCEIT score and all 4 of the branches correlated significantly with the DAP Internal Asset, Commitment to Learning. This area includes high achievement motivation, being actively engaged in school and completing homework, and reading for pleasure. Students who are high in emotional intelligence are also committed to the learning process and engaged in school.

While a correlation does not answer the "which came first" question, this finding is significant. It appears that adolescents who value learning are also likely to score higher on emotional intelligence, demonstrating that they have good EI skills. These adolescents can perceive and express their own emotions and can do the same with others. This allows them to let their emotions facilitate their decision-making and aids them in managing their emotions.

The DAP Internal Asset, Social Competence and the MSCEIT branch, B4; Managing Emotions, were significantly correlated at the .05 level. Managing Emotions is the ability to be open to feelings, and to modulate them in oneself and others so as to promote personal understanding and growth. Social Competence includes planning and decision making, empathy and friendship skills, cultural competence the ability to resist negative peer pressure,

and the desire to resolve conflicts peacefully. Both being committed to learning and developing social competence involve self-control and emotional regulation to maintain positive social relationships. If we can identify means for increasing these factors using training in emotional intelligence, we would gain additional tools for helping adolescents who are in recovery. There is a gap in the literature to suggest Emotional Intelligence skills can be developed through training and counseling.

PBI and DAP

The Parental Bonding Instrument has several correlations with the DAP. The Mother Care subscale (warmth and affection) correlates at the .05 level with the DAP's Internal Asset, Positive Values. These values include: caring, integrity, equality and social justice, honesty, responsibility, and internal restraints against early sexual activity and alcohol and drug use. The secure attachment with mother correlates positively with the adolescents' internal positive values. It is generally thought that parental warmth and responsiveness leads to attachment security, but others suggest that this finding could indicate that securely attached adolescents may allow their parents to be more sensitive by communicating their emotional needs more accurately to their parents [25]. Either way, the mother-adolescent bond becomes important in the development of the adolescent's self-esteem and internal values.

The Mother Overprotection of the PBI has a negative significant correlation with DAP External Assets, Boundaries and Support. Maternal overprotection on the PBI measures control and intrusion into the students' life instead of the encouragement of autonomy. The DAP Support category includes support from: family, school, community, other adults, positive family communication and parental involvement in schooling. As the mother is more intrusive and controlling in her child's life, the child feels less support from family and school and reports poor family communication. There is also an inverse correlation between DAP Boundaries and PBI maternal overprotection. Boundaries include clear rules and consequences at home, in school, in the community and with other adults and peers involved in their lives. The overprotective mother apparently does not have clear rules, expectations and consequences for her child. The Overprotective Mother, as opposed to the one promoting healthy attachments, thus becomes a hindrance to the adolescent developing a positive sense of autonomy, or the ability to set healthy personal boundaries. The Father Care Scale is positively correlated with the DAP External Asset of Empowerment. This scale measures how the teenager perceives whether the adults in the community value youth, if the youth of the community are given useful roles in the community, and how safe they feel where they live. The warmth and affection from the father is positively related to the child's perception of the community and feelings of safety and usefulness.

Father Overprotection positively correlates with both Constructive Use of Time and Positive Values on the DAP. The father's intrusion and control is positively correlated with Positive Values (caring, integrity, equality and social justice, honesty, responsibility and internal restraints against early sexual activity and alcohol and drug use). Constructive Use of Time measures the amounts

of time the adolescent spends in sports, music, arts, and clubs, church or hanging out at home. Recall that this same DAP quality of Positive Values was closely correlated to a warm and affectionate mother. Perhaps the real significance in what helps or hinders the developing maturity of an adolescent is contained in the properly combined parental traits. One further parallel to be seen below is that this Constructive Use of Time for adolescents is related to their perceived Father Spirituality (genuine or hypocritical).

Overall, the PBI shows very little secure attachment with the father among our subjects. This would indicate issues that might need to be addressed in counseling, and possibly suggests that the fathers need to be positively involved their teen's life.

LCGS with MSCEIT, DAP, and PBI

The "Loving" subscale of the LCGS correlates positively with the MSCEIT B4, Managing Emotions. The Loving component rates the respondent on viewing God as: accepting, loving, saving, forgiving and approving. Managing emotions measures how well a person is able to regulate emotions in both self and others.

Those who view God as controlling had negative correlations with both perceiving emotions and the total MSCEIT score. Perceiving Emotions involves non-verbal reception and expression of emotion such as facial expressions or tone of voice. Those who view God as controlling are less skilled in perceiving emotions and in total emotional intelligence.

The loving subscale also correlates positively with the DAP Support External Asset. Students who view God as loving, accepting and forgiving, feel more family, adult and school support, and have more positive family communication. This scale also has a positive correlation with Boundaries (clear rules and consequences) on the DAP.

Viewing God as Loving also has a positive correlation with the Mother Care (warmth and affection) component on the PBI. Taken together these last four findings present a fairly strong case for helping adolescents to develop the capacity to perceive God as a loving, accepting, and forgiving figure. This would enhance their sense of positive self, their wise use of time, and their ability to properly manage their emotions, thus contributing to their social relationships.

ECR and DAP

The anxiety attachment measured by the ECR-R has a negative correlation with the DAP Positive Identity (empowerment, positive self-esteem and sense of direction and purpose). The more anxiety experienced in close relationships, the less positive self-esteem is experienced. These two factors may have a circular effect: poor self-esteem effecting anxiety in relationships, and anxiety in relationships affecting ones' self-esteem. This factor is another one that appears to be strongly affected by the adolescent's perception of God as Loving instead of harsh and controlling.

PSQ and DAP

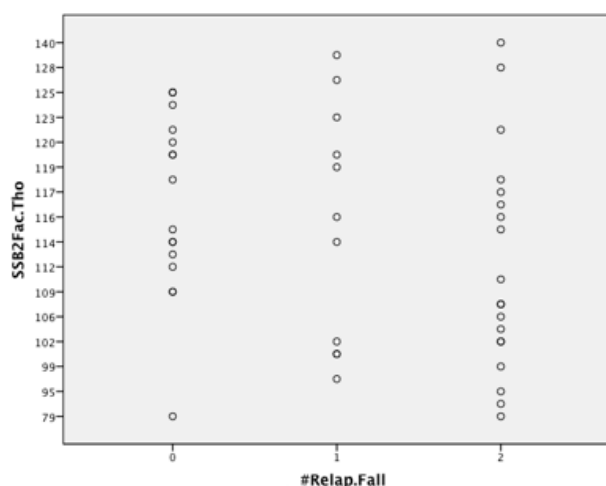
There is a positive correlation between the Father's Spirituality and the DAP use of Time (creative activities and youth programs). If the father's relationship with God is real and not hypocritical,

his child tends to be more involved in constructive activities and programs and feels safer at home. This finding was referred to earlier, as the Constructive Use of Time and it was also correlated with a warm and affectionate mother and a more overprotective father. It appears the extra attention from the father is perceived by the adolescent in a much more positive way than if a mother is overprotective. Our study did not examine this aspect in detail, but we raise a question here: If we divided the subjects by gender, how might this particular finding be effected? Would the results of the fathers' behaviors be the same for adolescent boys and girls? Certainly the role of the father is vital in healthy development.

Regression analysis

After reviewing the results of this study based on correlational analysis, the authors opted to run a regression analysis as well in an attempt to further identify or strengthen the implications of the study. Table 1 below suggests that a noticeably higher number of students experienced relapse if they were low in the MSCEIT Facilitating Thought scores (SSB2FacTho). This indicates that students who were less able to assimilate emotional data to impact their thinking processes were unable to harness their emotions for problem-solving and decision making as shown by increase in relapse rates. This clarification of results in relapse frequency does strengthen the authors' recommendation that training in emotional intelligence should become a part of the Hope Academy treatment plan.

Table 1:



Discussion

The results of this study suggest that there is a significant relationship between the EI of an adolescent and his/her ability to develop a healthy positive internal self, to develop positive social relationships, and to being committed to learning. The data further suggest that the role of both the father (strong and protective) and the mother (warm and affectionate) are significant in establishing positive self-feelings, boundaries, and constructive use of time. When this has not occurred, adolescents will need help in repairing their internal working models, in order to give them a healthy view of self as well as others, and to repair earlier insecure attachment styles. These findings indicate that it is also important for an

adolescent to be able to perceive God as loving, accepting, and forgiving to benefit in healthy attachment and emotional skills.

Since a higher EI is clearly associated with both a commitment to learning and with social competence, our strongest recommendation is that methods be found to enhance EI. Future studies on these subjects will assess whether and how well emotional knowledge can be taught, as these students will take the MSCEIT on intake, work with their counselors on emotional literacy, and then re-take the assessment. Little research exists to date as to whether learning emotional knowledge will increase personal effectiveness and relational success, but that is one of the major questions that now need to be addressed. Further study needs to also be done to determine if there is statistical significance between MSCEIT facilitating thought and relapse rates. The authors will continue to study these issues with adolescents in recovery, as well as with healthy adolescents.

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Conflict of Interest

Authors declare no conflict of interest.

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