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# Feeling Our Way: Emotional Intelligence and Information Literacy Competency

*Miriam L. Matteson, Omer Farooq, and David B. Mease*

## Introduction

Information literacy (IL) continues to be a major area of focus for academic librarians. Even as forces of change in the form of severe budget reductions, loss of positions, shifts in collection management, and changing technologies, have hit libraries hard in the early 21<sup>st</sup> century, their commitment to providing high quality IL instruction remains strong. An examination of recent strategic plans from academic libraries reveals continued emphasis on the teaching role of librarianship with organizational units dedicated to IL instruction and student engagement.<sup>1</sup> IL initiatives across campuses have moved well beyond the traditional face-to-face instruction session and now librarians deliver instruction in a variety of styles, varying in length, format, and emphasis.

As IL instruction initiatives have developed, many librarians have centered their efforts around the Association for College and Research Libraries (ACRL) IL standards,<sup>2</sup> with emphasis placed on teaching the skills outlined in the standards, diversifying the delivery methods with new technologies, and assessing learning outcomes. Less attention has been paid to understanding IL in a broader context as a set of skills or abilities at least partly influenced by dimensions of a student's personality, learning style, or level of cognitive development. There is benefit in examining IL from a wider lens. A greater understanding of the individual dimensions within a student as a developing,

growing learner can inform approaches to the practice of delivering IL instruction that may more soundly resonate with students, meeting them where they are in their cognitive and emotional development. In this paper, we explore IL from this wider lens, examining relationships between affective dimensions of a student's personality and IL competency.

## Literature Review

The research presented here develops in part from a call in the literature to more strongly connect IL and information seeking behavior.<sup>3</sup> Although these two concepts share important overlaps, as they have been conceptualized and addressed in the literature, they have remained somewhat unconnected. Julien and Williamson attribute this gap to a larger disconnect between practitioners and scholars.<sup>4</sup> They write, "Indeed, we believe it is increasingly apparent that there is a conceptual gap between practitioners (librarians) who are tasked with information literacy instruction of users, and scholars (academics) who theorize the concept."<sup>5</sup> Our research begins to bridge this gap by using theory from information seeking behavior to underpin the research questions we ask about students' information literacy skills. Specifically, we draw on theory that speaks to relationships between affect and information seeking behavior.

Early work that focuses on affect in information behavior is found within the construct of "library

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anxiety.”<sup>6</sup> Mellon’s theory was grounded in exploring the feelings that students have about using the library for research and she found that an overwhelming majority of students described their initial response to library research in terms of fear. These feelings were described as inadequacy, shamefulness, and desire to avoid any interaction such as asking questions.<sup>7</sup>

The landmark research that revealed the affective dimension of students’ information seeking behavior was Kuhlthau’s Information Search Process (ISP), presented as a six staged “holistic” information seeking experience.<sup>8</sup> Central to the ISP is the notion that uncertainty, both affective and cognitive, increases and decreases in the process of information seeking. As students move through the stages of the information search process, they experience emotions ranging from uncertainty, confusion, and frustration, to optimism, confidence, and satisfaction.<sup>9</sup>

Building on Kuhlthau’s framework, Nahl theorizes the role of social and emotional factors that impact information literacy.<sup>10</sup> She states that the psychodynamics of information behavior are determined by personality and individual social competence. These individual emotional traits, in turn, can contribute to outcomes such as information adjustment problems, search process problems, and personal information problems.<sup>11</sup>

As the theories described here show, there is an affective component to interacting with information. The processes of recognizing a need for information, of locating the information, of making sense of what we find, and of putting it to use in some way are linked to a range of emotions. In addition to being supported with theory, the link between affect and information behavior is further explored in empirical research.

Discrete emotions in the context of information behaviors were the focus of Given’s research of undergraduate students. Through in-depth interviews and walks around campus with participants, she identified micro and macro level events in students’ lives that resulted in discrete positive and negative emotions such as fear, sadness, alienation, anger, love, joy, and surprise which affected the students’ ability to look for information and complete assignments.<sup>12</sup> This research shows the range of emotions experienced by students as they enact information behaviors related to their studies.

In research that examined the socio-emotional development of 9<sup>th</sup> and 11<sup>th</sup> grade high school students

related to IL competency, Farmer found that specific dimensions of a measure of socio-emotional maturity, *emotional resilience* and *getting along*, were significantly correlated with a measure of IL competency.<sup>13</sup> Julien uncovered predominant affective experiences of IL from customers of public libraries, describing the three categories as “1) a sense of empowerment, personal mastery, and control; 2) a sense of normal, everyday experience, with no particular affective element; and 3) a sense of frustration by those who do not believe themselves to be information literate.”<sup>14</sup>

In demonstrating a connection between affective experience and IL and more general information behaviors, these studies establish the directionality of that connection as the role of affect influencing information behaviors. Bell conceptualizes the relationship in the reverse direction, investigating the effect library instruction has on students’ affect.<sup>15</sup> The data showed that students’ positive affect increased after taking a library-skills course, even though the library skills course was not directly intended to target students’ affect.<sup>16</sup> This finding increases the richness of the affect–information behavior relationship by suggesting that it may be reciprocal. Individual affect may have an influence on one’s competency with information behaviors—while building information behavior skills also influences an individual’s affective domain.

With the theoretical and empirical evidence of a relationship between affect and information behavior established, we seek to explore that connection further by investigating a more specific relationship between affect and IL. A criticism of the literature on IL is that it has tended to focus too narrowly on the mechanistic aspects of IL, as defined by the ACRL standards and measured by the corresponding indicators. Our interest in IL takes a step back from the standards and seeks to explore how individuals develop IL competencies, looking not at the specifics of one delivery approach over another, but focusing instead on stable, affective personality dimensions that might be related to an ability to develop IL skills. Gatten modeled this approach to understanding IL by mapping theories of psychosocial and cognitive development to the steps of IL.<sup>17</sup> He argued that librarians need to be aware of the influences of these individual-based characteristics of students and recognize that students move through psychosocial and cognitive development stages—not necessarily in a linear fashion—as they mature. We continue in this direction by looking

at two affective constructs, emotional intelligence and dispositional affect, to investigate relationships with IL competencies.

### Emotional Intelligence

Emotional intelligence (EI) "...involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions."<sup>18</sup> EI is an intelligence because it involves abstract reasoning about a set of inputs—in this case emotions, as contrasted with language (verbal intelligence) or the position of objects in space (spatial intelligence).<sup>19</sup> Although several conceptualizations of EI have been developed, including trait-based EI and a mix of trait and ability-EI, the approach that is most soundly developed in theory and research is an ability-based model of EI first put forth by Salovey and Mayer.<sup>20</sup> The ability model posits that EI is a type of intelligence made up of several related abilities. In this approach, emotions are viewed as useful sources of information that help one to make sense of and navigate the social environment.<sup>21</sup>

The Mayer and Salovey model of EI<sup>22</sup> includes four branches of interrelated abilities:

1. Perceiving emotions
2. Using emotions to facilitate thought
3. Understanding emotions
4. Managing emotions

This model supposes that individuals vary in their ability to process information of an emotional nature and in their ability to relate emotional processing to wider cognition. For the research presented here, we focused on the fourth branch of EI—managing emotions—as having the most relevance to IL competencies.

### Dispositional Affect

Dispositional affect is a personality trait, reasonably stable in individuals over time, that describes how one typically perceives events or situations emotionally.<sup>23</sup> Typically operationalized as positive affect (PA) and negative affect (NA), dispositional affect differs from emotions in that affect is a broader concept. Where emotions arise as a result of a specific sense-making process about an event, sight, or smell, affect exists independent of a specific experience.<sup>24</sup> Research shows that rather than forming opposite poles of a scale, PA and NA are distinct concepts—thus individuals hold a level of both positive affect and negative affect.<sup>25</sup> Re-

search also tells us that PA and NA are asymmetrical—we tend to recall and process negative information more than positive information, resulting in the sense that "bad is stronger than good."<sup>26</sup> Larsen explains this phenomenon this way: "...there appears to be a gain in function built into the negative affect system such that this system produces a larger response, per unit input, than the positive affect system."<sup>27</sup> The differences between PA and NA are further explained by the observed actions resulting from positive and negative affect. Negative emotions are typically accompanied by rather specific natural actions: fear goes with escape, anger goes with attack, disgust goes with expel.<sup>28</sup> In contrast, positive affectivity is associated with approach behavior, such as staying engaged with an activity one has started. Different from the actions associated with negative emotions that are often sudden and decisive, the actions connected with positive emotions are vague, less urgent, and are more expanding and explorative.

Thus, the broaden and build theory of positive emotions suggests that while negative affect typically results in narrowing the set of likely behaviors, positive emotions result in broadening behaviors, such as an urge to play, to be creative, to savor experiences, or to explore.<sup>29</sup> When a student with a greater degree of negative affect enacts information behaviors, she may experience more frustration because of the unequal reactivity of NA, and the range of available actions may narrow. A student with greater positive disposition, in contrast, may be able to draw on her positive affect to stay better engaged in the information behavior and choose from a wider range of actions.

Some empirical research has examined the potentially differential influences of PA and NA on academic achievement. In a study of 293 males from grades 7-10, PA was found to explain more of the variance in school satisfaction, school engagement, and coping behaviors than NA.<sup>30</sup> A study of 238 undergraduates at the University of Edinburgh revealed that academic success, as measured by course results at the end of the academic year, were predicted by a set of variables including personality traits of agreeableness, conscientiousness, PA, task-focused coping, and emotional adaptability.<sup>31</sup> Though we know of no studies that have looked directly at the relationship between dispositional affect and IL, we believe the relationships explored between affect and academic achievement are relevant and usefully inform this work on IL.

## Research Question

The overarching research question guiding this study is: Is individual affect related to IL competencies? To explore that question we hypothesized specific relationships and interactions among our variables to test:

Hypothesis 1: EI will be positively associated with IL.

Hypothesis 2: Dispositional affect will be associated with IL. Positive affective will be positively associated with IL; negative affect will be negatively associated with IL.

## Participants

An online survey was developed using existing measures for the variables included in the study (see detailed descriptions of the instruments used below). Participants were students enrolled in an introductory communications studies course at Kent State University. In this course a portion of the students' final grade comes from points earned by either participating in research studies or by writing write short papers. The instrument was distributed to students grouped in 10 sections of 100 students per group. We received 812 completed surveys (81.2% response rate).

## Instruments

To measure EI, we used the *Situation Test of Emotional Management (STEM)*.<sup>32</sup> This 44-item scale is an ability-based measure of the emotion management branch of EI. Each scale item briefly describes an emotional situation with five possible behavioral responses. Participants are instructed to choose the most effective course of action from among the five responses. Response choices were scored by experts in two ways: the average rating of the choice on a six-point scale, and proportion of experts who selected that choice. Thus each item has a "best" response, based on the collective wisdom of the expert scorers. In all but three cases, both scoring methods resulted in the same option emerging as "best". In those three cases, we chose to use the response with the best average score between the two scoring methods as the correct response. Participant responses were scored against the correct answer.

Dispositional affect was measured using the *Scale of Positive and Negative Affectivity (SPAN)*.<sup>33</sup> This twelve-item scale measures an individual's positive

and negative affectivity. Six positive and six negative feeling terms are presented to participants who respond with an indication of how much they have experienced that feeling during the previous four weeks on a scale from one to five, where one is "very rarely or never" and five is "very often or always". Examples of the positive terms are pleasant, happy, and joyful. Negative terms include bad, sad, and angry. The responses are calculated to produce a PA score from the positive terms and an NA score from the negative terms.

Information literacy scores were collected using the *University of Arizona Information Literacy Test*.<sup>34</sup> Developed by librarians at the University of Arizona, this test includes 40 multiple-choice questions. Minor adaptations were made to questions that referenced specific resources or services at the University of Arizona to fit the corresponding resources at Kent State University. Students' responses were scored against the correct answer.

## Procedure

Students voluntarily signed up to participate in the study. The instrument was made available to the participants online using Qualtrics software and students were given a period of 3 weeks to complete the study.

## Results

Prior to completing our planned analysis, we conducted preliminary analysis across the dataset to remove surveys that were not fully completed, and to check for any abnormalities in the data. We observed that the completion time for some participants was startlingly fast. Our pilot test of the survey indicated an average completion time of 45 minutes, and yet a subset of surveys were completed in as quickly as two to five minutes. We calculated the frequencies of the completion time across the initial sample of 812 completed surveys and identified the fastest 10% (0–13.64 minutes), the middle 80% (13.64–97.93 minutes), and the slowest 10% (97.93–11,477.43 minutes [7.9 days]), and created three groups: fastest (n=81); middle (n=649); slowest (n=82).

To compare the performance of the three groups, we compared their mean IL test scores and discovered that the fastest group had statistically significant lower IL scores (25.7%) than the middle (42.5%) and slow groups (40.8%), ( $p < .001$ ). The slowest group however, did not have statistically significant lower scores

than the middle group. We further tested for differences in the groups by running the correlations between EI and IL for each group. Consistent with the means comparison, the correlation for the fast group was non-significant, suggesting no relation greater than chance. But for the middle and slow groups, the correlation was significant. Based on this analysis we determined that we could reasonably exclude the fastest 10% of completed surveys from the data analysis, as our intuitive belief—that the participants did not read the questions but just clicked through the instrument—seemed to be supported in the analyses. Thus, the final dataset was reduced to 731 surveys (N=731), and we acknowledge that further analysis might suggest an even more conservative cut-off point.

Means, standard deviations and correlations for all variables are reported in table 1.

**TABLE 1**  
**Means, Standard Deviations, and Correlations**

	Mean	S.D.	EI	Pos	Neg	IL
EI	.4960	.12142	1	.112**	-.037	.495**
Pos	22.8618	3.69358	.112**	1	-.539**	-.026
Neg	15.6088	4.23522	-.037	-.539**	1	.053
IL	.4234	.12577	.495**	-.026	.053	1

\*\* p < .01

Looking at table 1, the mean score for the EI instrument was 49.6% while the mean score for the IL instrument was 42.3%. These two instruments were ability-based, as opposed to attitudinal or perception-based instruments, and indicate the degree to which the respondents are emotionally intelligent and information literate. The mean scores for these measures, at just below 50%, show that on average students in this sample were only moderately skilled in these areas.

The scores for positive and negative affect measured by SPANE can range from a low of 6 to a high of 30. The mean score for positive affect was 22.8 while the mean negative score was 15.6. On average, the dispositional affect scores tilt toward more positive feelings than negative feelings.

The analysis examined the relationship between EI and IL, predicting that students' EI ability would influence their IL competency. To test hypothesis 1, students' IL scores were regressed on their EI scores. EI was positively correlated with IL ( $r = .495, p <$

.001), EI accounted for 24.5% of the variance in IL scores. The unstandardized regression coefficient ( $b = .513$ ) was also significant ( $p < .001$ ) meaning that for each point increase on students' EI scores, their IL score increased by .513. Thus hypothesis 1 was supported.

Hypothesis 2 suggested an association between dispositional affect and IL, but an examination of the correlation data showed no significant relationships for positive or negative affect. Thus hypothesis 2 was not supported.

**Discussion**

This research was an initial exploration of the relationship between aspects of an individuals' affect, as operationalized by emotional intelligence and dispositional affectivity, and their information literacy competency. Prior theory and research have demonstrated the affective dimensions inherent in information behavior. Thus it is reasonable to suggest that there may be a relationship between students' affect and their mastery of information literacy skills, a specific set of information behaviors.

The data show mixed results for this idea. The predicted relationship between dispositional affect and information literacy was not supported by the data. The hypotheses suggested that a students' trait affectivity would be associated with IL competency. A student with a more positive affective state should be better able to manage the emotional aspects of information behavior because of an ability to stay engaged, broaden and build their actions, and thus better master IL competency; students with higher negative affect should experience the opposite effect. But as the data showed, no such relationships were observed. It is possible that an association between dispositional affect and IL actually operates through an interaction with another construct, such as coping ability. Perhaps it is not students' trait affect, but their range of coping skills when faced with negative affect, that has a relationship with IL competency. Further research is warranted to examine this relationship.

The relationship between EI and IL did show a significant correlation, with EI explaining a fairly large portion of the variance of the IL score. This suggests that students who are better able to manage their emotions—who can identify a productive path

through an emotionally sticky situation—may be better equipped to master information literacy skills. The IL skills commonly taught in academic settings, though affectively neutral, still expose students to the same potential for affective experiences. Students with lower EI may find it more challenging to master the skills of IL because of a lowered ability to effectively manage their emotions.

### Limitations and Future Research

We bring to light several potential limitations with this research. First, the instrument used to measure participants IL was developed based on the ACRL standards and is closely tied to specific information behaviors associated with using an academic library. It is possible that participants are competent with IL skills in general, but are unfamiliar with specific aspects of the Kent State University library, which may have resulted in a lower score. In future research we plan to collect information on participants' general library use and whether they have received any library instruction. A second limitation is the length of the instrument. As described earlier, we observed that for some number of surveys collected, the participants did not give adequate time to reading and answering the questions. However, only the responses from those participants who raced through the instrument were detectable. Other participants may have ceased to provide accurate answers at any point throughout the survey, but still have completed it within a reasonable amount of time. There seems to be no easy way to protect against this possibility, but it does support a call for replicating the research across a variety of populations.

As this is an exploratory study, there are a number of directions future research in this area could take. One is to examine the full construct of EI as it relates to IL, looking at the four branches of EI and the interactions with IL. Another avenue would be to try to observe the effects different discrete emotions, such as frustration, anxiety, confidence, or joy have on IL skill mastery. Uncovering which discrete emotions were most conducive to learning IL skills would help librarians design instruction sessions that could encourage those emotions for the most effective learning. Finally, more complex models could be tested to examine potential interaction effects with IL and other psychosocial constructs such as coping ability, task motivation, or stage of cognitive development.

### Implications for the Practice

The strong finding associating EI with IL has interesting implications for librarians who work with students on information literacy concepts. Understanding how emotional intelligence aids in prioritizing thinking and enables students to manage emotions in all aspects of their academic information seeking behavior can help librarians decipher the points at which students might need intervention during information literacy instruction sessions. Promoting the knowledge and use of emotional intelligence in the context of information literacy instruction may also enhance the quality of instruction and learning to ensure academic success.

The teaching role in academic librarianship requires knowing that students will vary in their ability to effectively manage their emotions, and it calls for librarians to be able to recognize and react to the range of emotions students may experience as they interact with information. This research suggests that IL instruction may be more effective when librarians can show sensitivity to the affective responses of students, and even further, prepare students for experiencing emotional reactions as they engage in information literacy skills.

In essence, these findings suggest that librarians may achieve greater success with IL instruction if they broaden their conceptualization of IL. Tutorials, single instruction sessions, workshops, and whole courses should reflect an awareness of individual affect in information literacy. Specific activities could both prepare students for experiencing a range of emotions, as well as invite students to reflect back on their emotions after practicing particular skills. Bringing awareness to the affective nature of information behavior may over time help students develop more effective emotion management strategies in information contexts.

### Conclusion

The hypothesis that individual affect is related to information was partially supported in this research. Through the use of standardized instruments measuring emotional intelligence and information literacy, we observed a positive relationship between EI and IL scores. This significant relationship between EI and IL suggests areas of possible focus in order to better promote IL abilities. Knowledge of and attention to EI abilities in individuals, identification of situations in

which EI abilities may be stressed, and techniques for improving EI abilities all present possible high impact facets that librarians can include in the greater effort of information literacy instruction.

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