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# Emotional Intelligence and Social Adjustment among Essential Hypertension Patients: Cross-sectional Mixed Methods

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## ABSTRACT

**Objective:** Emotional intelligence (EI) has been increasingly acknowledged as a significant psychological resource contributing to emotional regulation, coping mechanisms, as well as social adjustment (SA) and social interactions, when someone is living with a chronic illness. This study aimed to examine the levels of EI and SA among patients with essential hypertension (EH).

**Methods and Materials:** A mixed-methods approach was used; quantitative data were collected using the EI and SA scales, while qualitative data were collected through semi-structured interviews with 18 participants, which were thematically analyzed and integrated with quantitative findings to enhance interpretation of the results. A sample of 184 participants (107 males and 77 females) was purposively selected from Ghour Alsfi Hospital in southern Jordan.

**Findings:** The study found a moderate level of EI and SA among EH patients. Also, no relationship was found among the EH patients between EI across all domains and SA. At the same time, gender, illness duration, and qualification variables did not predict SA level statistically significantly; EI did not add explanatory power beyond these variables. The results from the interviews with 18 participants were largely consistent with quantitative results.

**Conclusion:** These findings suggest that patterns of adaptive stabilization in the psychosocial functioning of EH patients are determined mainly by the process of adaptive stabilization, rather than by their personal characteristics or demographic features.

**Keywords:** Emotional intelligence, social adjustment, hypertension, chronic diseases.

## Introduction

Emotional Intelligence (EI) and social adjustment (SA) represent two psychological constructs closely related to emotional functioning and interpersonal relationships in EH patients. Through enabling individuals to recognize, understand, and manage their own emotions, EI has been associated with healthy coping skills and effective emotion management in health-related contexts (Wierenga et al., 2017). They reflect how patients fulfill their social role, maintain interpersonal relationships, and respond to the demands of those relationships. At the same time, it is related to the social resources available to patients and reflects how an individual functions socially through these resources (Nwanaji-Enwerem et al., 2022). EH is associated with prolonged psychological stress as well as the continued requirements placed on the individual regarding their lifestyle. Its demands affect an individual's ability to regulate emotions and social functioning, which may impact their quality of life and their ability to maintain social and work roles (Marwaha, 2022).

An increasing number of people are recognizing that EH is a long-term condition with both physical, dysregulation, and psychological and social components (Kebede et al., 2024). Patients often have to perform continuous self-monitoring, take numerous medications for extended periods, and make lifestyle changes over extended periods (Bubulac et al., 2025). These long-term demands may place emotional strains, lead to anticipatory anxiety, and affect social interactions (Dou et al., 2025). Chronic illnesses occur within a broader psychosocial context in which emotional processes, social roles, and healthcare interactions shape the patient's experience (Abbas et al., 2025). Multiple mechanisms have been proposed to contribute to EH development, including genetics, environmental factors, behaviors, and psychosocial factors (Shen et al., 2022). Development of EH is also related to chronic stress and maladaptation in emotion regulation and management, and chronic stress can activate both the sympathetic nervous system (SNS) and the hypothalamic-pituitary-adrenal (HPA) axis (Crepaldi et al., 2024).

The concept of EI refers to the capabilities to identify, comprehend, manage, and use feelings to influence how patients think and communicate with others (Malinauskas et al., 2018). To achieve these functional competencies, it is important to develop four core skills that are comprised of self-awareness, self-regulation, social awareness, and relationship management, to manage stress, adaptively solve problems, and build good relationships with others (Barberis et al., 2019). In the context of a chronic disease, EI directly affects individuals' ability to regulate their stress management and emotions and adhere to psychological treatment; moreover, Patients with higher levels of EI exhibit more resilience during an illness than those with lower levels; they also exhibit less emotional reactivity and have developed better coping mechanisms, mitigating the adverse psychological effects of having a chronic condition such as EH (Alkhadher, 2007).

Also, EI contributes to life satisfaction, an individual's perception of social support, engagement in adaptive coping behaviors, and positive psychological adaptations (Alaamri et al., 2023). Thus, the idea that EI is teachable supports interventions that enhance patients' psychological adjustment with chronic conditions (Tzeng, 2014). Higher levels of EI among EH patients may improve awareness of one's own feelings, enhance appropriate responses to stress, and improve communication between patients and health care professionals, leading to overall improvements in psychological and physiological health outcomes (Gillioz et al., 2023).

SA is a concept that describes how patients can build and maintain supportive relationships with others, engage in communities and groups, and develop and maintain the ability to adapt emotionally and physically to social norms (Azpiazu et al., 2023). It includes one's ability to manage a patient's treatment regimen with available social support during a prolonged illness, such as EH. Patients with high levels of SA are likely to experience better overall emotional health, greater psychological resilience, and higher life satisfaction (Kebede et al., 2024). Other factors that are often seen to be related to decreased levels of SA are being isolated from others or having chronic levels of stress. At the same time, there is considerable evidence that patients who perceive they are well supported socially tend to have better health outcomes and stronger adherence to treatment plans than those who do not feel supported (Song et al., 2019). In addition, SA is a vital component in the encouragement of healthy behavior, i.e., patients who

maintain regular physical activity and eat in a nutritious manner, and this is particularly true for those individuals with EH, since they are significantly more vulnerable to not adhering to their treatments (Shen et al., 2022). The interaction between SA and EI also shapes a patient's ability to access and use social support networks, thereby directly affecting the successful management of their disease and psychosocial functioning (Siu et al., 2024; White et al., 1992).

Prior investigations into the theoretical and empirical bases of EI, SA, and EH have been extensive; however, there remains a sizeable discrepancy among professionals across different fields who use varying data-collection techniques. A study by Ma et al. (2024) examined social support, sense of coherence, physical literacy, and self-efficacy, which contributed to a better understanding of more effective treatments for managing hypertension. A cross-sectional, convenience sampling technique was used to obtain research participants aged 18-65 years old who have been diagnosed with hypertension and are currently obtaining care in the community across Zhejiang Province and Anhui Province during the time period of January 2024 to February 2024. Research participants were administered the following five instruments: (1) General Information Questionnaire; (2) Physical Literacy Scale for Young and Middle-Aged Hypertensive Patients; (3) Sense of Coherence Scale-13 (SOCC-13); (4) General Self-Efficacy Scale; and (5) Perceived Social Support Scale. Young and mid-aged sample participants received a score range of 18 – 90 points on the physical literacy scale, and the average (mean) score was 62.30 ± 13.92 (with a score of 60 representing a moderate level of physical literacy). The scores from the 270 research participants show a statistically significant, positive correlation of physical literacy and social support ($r = .557$, $p<.01$), physical literacy and sense of coherence ($r = .392$, $p<.01$) and physical literacy and self-efficacy ($r = .466$, $p<.01$); therefore, physical literacy is positively correlated to all of the examined variables in this study.

Additionally, social support exerted multiple mediating influences through sense of coherence, self-efficacy, and physical literacy. Also, Hassan et al. (2025) explored how social support enhanced health-related quality of life among individuals with chronic illnesses. Using quantitative methodology, the study examined the various aspects of social support, including emotional and instrumental support. Findings showed that higher levels of social support were associated with improved psychological health and increased health-related quality of life. Also, SA is one of the most important factors when adapting to chronic illnesses, and developing strong interpersonal relationships may aid in relieving the mental drain of disease.

Bubulac et al. (2025) examined the impact of psychological factors such as stress, anxiety, and self-efficacy on EH patients compared to non-EH patients. Through a case-control study design, the study assessed emotional and mental health through standardised psychological scales; the study found that EH patients had significantly higher levels of both perceived stress and anxiety than healthy participants. Furthermore, EH patients had significantly lower levels of self-efficacy than healthy participants. In addition, Shukla & Pandey (2024) explored auditory and audiovisual emotion recognition in prehypertensive and hypertensive individuals. Participants ($N = 175$) who were normotensives, prehypertensive, and hypertensives ($n = 57$, 58, and 60, respectively) completed an auditory implicit task (matching auditory target with auditory distractors) and two cross-modal implicit tasks (matching visual target with auditory distractors, and vice-versa), and an auditory explicit task (labelling emotions in audio-clips). Findings showed an aberrant speed–accuracy trade-off: prehypertensives focused more on accuracy at the expense of speed, while hypertensives showed the opposite. Discriminant function analysis revealed that blood pressure (BP)-associated emotional dampening is a definite but moderately sensitive correlation of hypertension. The study highlights that prehypertensive and hypertensive individuals demonstrate emotional dampening in implicit (but not explicit) auditory emotion recognition and a greater deficit for auditory than visual recognition of implicit emotions. Findings show emotional dampening as an observable correlation of elevated BP and hypertension.

Alaamri et al. (2023) associations among EI, quality of patient-provider interaction, and hypertension (HTN) self-management behaviors. The cross-sectional analysis utilized a clinical sample from outpatient health care settings. It included measures of EI and self-management behaviors, i.e., medication adherence, activation for participation in patients' health care, and


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communicating with their health care provider. Results showed that EH patients with higher EI levels had better self-management behaviors, were more engaged in their health decisions, and were better able to support themselves in responding adaptively to chronic illnesses. Another study by Kebede et al. (2024) examined EH patients and how their psychosocial and behavioural characteristics affected their ability to care for themselves. The study found that the ability to manage stress, have social support, and process emotions were all factors that influenced how effectively EH patients practice self-care. Moreover, patients with good psychosocial functioning spend more time engaging in health-promoting activities. Also, the emotional functioning, SA, and health behaviours are all highly interrelated for EH patients.

The previous studies combined provide evidence for the importance of investigating emotion and social factors in determining how EH patients adapt and function psychologically, including EI as a significant contributor to emotional self-regulation, resilience, and adaptive behavior. Additionally, SA and social support are critical factors in reducing stress and enhancing quality of life. Even though EI and SA have generated interest in the healthcare field, there is a significant gap in the literature in their study of EH patients. Thus, this underscores the significance and aim of the current study. to examine the relationship between EI and SA in a clinical population of EH patients.

EH is a chronic physical illness that affects the socio-psychological condition of patients. Because treatment and lifestyle management are ongoing, these needs may interfere with the person's ability to regulate emotions and function socially, thereby limiting their ability to maintain interpersonal relationships and fulfill social roles. The person's capacity to perceive and regulate emotions under stress and to adapt to social demands and the roles they play in society requires high-level psychological functioning.

Although these constructions are important for managing chronic illness, past empirical studies (e.g., Bubulac et al., 2025; Kebede et al., 2024) have examined them in isolation and primarily with respect to related outcomes, i.e., self-efficacy, emotional distress, or coping, rather than examining the relationship between emotional capacities and social adaptation. As a result, we currently do not have conclusive scientific evidence of a relationship between EI and SA amongst the chronically ill, and specifically those with EH, which limits our overall understanding of psychosocial functioning amongst those we care for. Therefore, this study aims to explore levels of EI and SA in EH, thereby addressing an underexplored area of psychosocial adaptation to living with EH.

This study aims to examine levels of EI and SA across their dimensions in EH patients. In addition, explore whether EI is associated with SA among patients, contributing to a deeper understanding of psychological functioning in EH patients. This study was designed as a step to answer the following questions: To what extent do levels of EI and levels of SA across their domains vary among EH patients? To what extent is the level of EI associated with the level of SA among EH patients? Does EI explain additional variance in SA beyond gender, qualification, and illness duration in EH patients?

## Methods and Materials

### *Study Design*

This study adopted a sequential explanatory mixed-methods design. The first phase consisted of a cross-sectional quantitative correlational study examining the levels of emotional intelligence (EI) and social adjustment (SA) among patients with essential hypertension (EH), as well as the association between these variables after accounting for selected demographic and clinical factors. All quantitative data were collected at a single time point.

The second phase employed a qualitative descriptive approach using semi-structured interviews with a purposive subsample of participants from the quantitative phase. This component was designed to provide a deeper understanding of patients' emotional and social experiences while living with EH and to enrich the interpretation of the quantitative findings. The two strands of data were integrated during the interpretation stage.

### *Setting and Participants*

The study was conducted at Ghour Alsafi Hospital in southern Jordan. Patients diagnosed with EH for at least six months were identified from outpatient clinic records. A total of 357 eligible patients were contacted via WhatsApp using an invitation message explaining the purpose of the study, of whom 184 agreed to participate in the quantitative phase.

Eligibility criteria included being 25 to 65 years of age and having a confirmed diagnosis of EH for a minimum of six months. The final quantitative sample comprised 107 men (59.2%) and 77 women (40.8%). In terms of educational attainment, 58 participants (31.5%) had completed 12th grade or below, 48 (26.1%) held a diploma, 48 (26.1%) held a bachelor's degree, and 30 (16.3%) had postgraduate education. Regarding illness duration, 35 participants (19.0%) had been diagnosed for less than 3 years, 44 (23.9%) for 3 to 6 years, 38 (20.6%) for more than 6 to 10 years, and 67 (36.4%) for more than 10 years.

*Qualitative Sampling*

For the qualitative phase, a purposive subsample of 18 participants was selected from the quantitative cohort. The subsample included nine men and nine women and was chosen to ensure variation in gender, educational level, and illness duration. Interviews continued until thematic saturation was achieved, defined as the point at which no new themes or meaningful insights emerged from the data.

*Instruments*

*The Schutte self-report emotional intelligence test (SSEIT):* EI was assessed using the Arabic version of the Schutte Self-Report Emotional Intelligence Test (Zoghlami et al., 2022*).* This test consisting of a validated Arabic version and 33 items measuring the perception of emotions, the use of emotions, the management of one's own emotions, and the management of others' emotions. All items are in a positive direction, except items number (5, 28, 38) are in a negative direction. The scale Items are rated on a 5-point Likert scale, and the total score ranges from 33 to 165; higher scores indicate a higher level of EI. The original reliability, Cronbach's alpha, is reported above 0.90.

*Social adjustment scale (*Rzepa & Weissman, 2014*):* A self-report scale consisting of 54 items was designed to measure expressive and instrumental performance over the past two weeks in si54. The areas: work (items 1 – 18), social and leisure activities (19 – 29), relationships with extended family (30 – 37), role as a marital partner (38 – 46), parental role (47 – 50), and role within the family unit, including perceptions about economic functioning (51 – 54). The questions within each area cover four expressive and instrumental categories: performance on expected tasks; friction with people; finer aspects of interpersonal relations; and feelings and satisfaction. The scale was translated into Arabic using the standard forward–backward translation process. The translated versions were reviewed and checked by a professional psychologist in Arabic and English, and pilot-tested to ensure clarity and cultural appropriateness before data collection. The scale Items are rated on a 5-point Likert scale, and the total score ranges from 54 to 270; higher scores indicate a lower level of SA. The original Cronbach's alpha reliability is above 0.85.

Third, semi-structured interview guide: developed based on literature on EI and SA, questions explore participants' emotional coping strategies, social interactions, perceived support, and challenges in managing EH. Interviews were audio-recorded and transcribed verbatim for thematic analysis.

The scales and interview questions were presented to 10 experts in psychology, mental health, and psychiatry to evaluate their validity, content suitability with the study's objectives and questions, and the accuracy of the language. Furthermore, the experts assessed their appropriateness for the target sample. There was 80% agreement among the reviewers on the validity of the scales and interview questions for use with the target sample. Furthermore, Cronbach's alpha was calculated for both scales across all their domains as presented in Table 2. In addition, the correlation coefficient between the item score and the domain total score was evaluated using a minimum acceptable criterion of r≥ .30. All items exceeded this threshold; no items were removed based on total correlation values. As indicated in Tables 3 and 4. Finally, Factor validity was verified using principal component factor analysis, and an orthogonal rotation was performed.

*Procedure*

Before any data collection for the study, IRB approval was obtained from the Ghour Alsfi Hospital Management Board, and the patients who contributed were recruited from the hospital's outpatient clinics. Before signing their informed consent forms and enrolling in the study, eligible participants were consecutively recruited during routine clinic visits and completed the study questionnaires after providing informed consent. All patients received an explanation about the study's purpose. The EI and SA scales were used to assess each

patient's face-to-face preferences. Also, the quantitative part was complete; 18 patients (9 male, 9 female) were purposively selected to provide further qualitative information regarding their emotional and social experiences with EH. Interviews were conducted by an unqualified researcher (no clinical relationship to patients) using a semi-structured format with minimal opportunities for power imbalances between interviewer and subject, with informed consent obtained via recollection. In those subjects, participation was strictly voluntary, allowing reflexivity to influence the analysis. The typical length of each interview was 30-45 minutes. Each interview was tape-recorded, stored securely (on a password-protected device), and de-identified before being transcribed. Access to the tape recordings was limited to members of the research team, and all recordings were destroyed after transcription. The transcription was also thematically coded to facilitate the identification of themes and other patterns related to emotional intelligence (EI) and self-awareness (SA). The data collected were coded and entered into SPSS Version 28 for subsequent analysis. The resultant quantitative and qualitative findings were then combined through analysis to provide an integrated profile of how EI and SA were related, considering the subject's gender, level of training/education, and length of time they have been ill, using both statistically based evidence and rich, qualitatively based contextual data obtained from subject responses to open-ended questions regarding their experience of emotional distress.

*Data analysis*

The quantitative data collected from the EI and SA were analyzed using SPSS version 28. Means and standard deviations have been calculated to describe the levels of EI and SA across all domains of the scales. Also, the Pearson correlation coefficient was computed to assess the relationship between EI and SA and its strength and direction. Hierarchical regression analysis was performed to examine whether EI predicts SA after controlling for gender, qualification, and illness duration. For Hierarchical Regression Analysis, the gender variable was coded as 1 (Male) and 2 (Female). The qualification and illness duration were treated as ordinal variables and coded as (12th class and less = 1, diploma = 2, bachelor = 3, and postgraduate = 4) also, (Less than 3 years = 1, 3 years to 6 years = 2, more than 6 years to 10 years = 3 and more than 10 years = 4). The qualitative semi-structured interview data were analyzed using thematic analysis. The initial step in thematic analysis was to read and reread the interview transcripts and conduct multiple reviews to develop familiarity with the data and a comprehensive understanding of the patients' experiences with EI and SA. Later, highlight and code meaningful segments of the text to identify concepts. Following the process, codes were grouped into themes that represent consistent patterns across patients and organized into categories of emotional perception, social support, social skills, and emotional regulation. Quality and trustworthiness were enhanced through the re-evaluation of themes and their codes, the alignment of data with transcripts, and the discussion of discrepancies. Ultimately, the qualitative data were integrated with the quantitative data to develop a more detailed and complete representation of the relationship between EI and SA in EH patients.

*Ethical consideration*

Ethical approval was obtained from the Institutional Review Board of Ghour Alsfi Hospital, a participating facility in southern Jordan. The approval number of 51/11/2025. All processes were conducted in accordance with the IRB's ethical standards. Consent to participate was obtained from each participant before data collection began. They were informed of their option to withdraw from the study for any reason at any time, without fear of retribution. In the study, no patients showed signs of excessive emotional distress or refused to discuss their psychological problems.

## Findings and Results

*Quantitative findings*

Table 1 presents that the EH patients demonstrate a consistently moderate level of EI across all domains. It suggests that while EH patients possess adequate emotional awareness and regulation, these skills do not reach an advanced level that would confer additional psychological resilience.

**Table 1**

*Means and standard deviation for the EI level across its domains*

| Domains | Mean | Standard deviation | Level |
|---|---|---|---|
| Perception emotional | 2.99 | 0.22 | Moderate |
| Emotional using | 3.02 | 0.29 | Moderate |
| Managing one's own emotions | 3.00 | 0.22 | Moderate |
| Managing others' emotions | 2.97 | 0.24 | Moderate |
| Total EI | 3.00 | 0.12 | Moderate |

*Note. Classification of levels based on mean Likert scores: low = 1.00–2.33, moderate = 2.34–3.67, and high = 3.68–5.00.*

As shown in Table 1, participants with essential hypertension demonstrated moderate levels of emotional intelligence across all domains. The highest mean score was observed for use of emotions (M = 3.02, SD = 0.29), whereas the lowest mean score was found for managing others' emotions (M = 2.97, SD = 0.24). The overall EI score was in the moderate range (M = 3.00, SD = 0.12), indicating a relatively consistent pattern of mid-level emotional functioning across domains.

**Table 2**

*Means and standard deviation for the SA level across its domains*

| Domains | Mean | Standard deviation | Level |
|---|---|---|---|
| Work role | 3.02 | 0.12 | Moderate |
| Social leisure activities | 3.01 | 0.20 | Moderate |
| Extended family relationship | 3.01 | 0.27 | Moderate |
| Marital role | 3.00 | 0.20 | Moderate |
| Parental role | 3.01 | 0.35 | Moderate |
| Family unit role | 2.95 | 0.37 | Moderate |
| Total SA | 3.00 | 0.11 | Moderate |

*Note. For the Social Adjustment Scale, higher scores indicate lower social adjustment. Classification of levels based on mean Likert scores: low = 3.68–5.00, moderate = 2.34–3.67, and high = 1.00–2.33.*

As presented in Table 2, participants showed moderate levels of social adjustment across all domains. The highest mean score was observed for work role (M = 3.02, SD = 0.12), whereas the lowest mean score was found for family unit role (M = 2.95, SD = 0.37). The total SA score also fell within the moderate range (M = 3.00, SD = 0.11), indicating a generally similar pattern of adjustment across social roles and domains.

**Table 3**

*Pearson correlation coefficient between EI across its domains and the SA*

| EI | SA |
|---|---|
| Perception emotional | 0.02 |
| Emotional using | -0.08 |
| Managing one's own emotions | -0.06 |
| Managing others' emotions | -0.03 |
| Total EI | -0.08 |

*Note. All correlations were reported as nonsignificant (p > .05).*

Table 3 shows that the correlations between EI and SA were near zero in magnitude across all EI domains. The correlation between perception of emotions and SA was slightly positive (r = .02), whereas the correlations for use of emotions (r = -.08), managing one's own emotions (r = -.06), managing others' emotions (r = -.03), and total EI (r = -.08) were negative but trivial in magnitude. None of these associations reached statistical significance, indicating that EI was not significantly associated with SA in this sample.



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**Table 4**

*Hierarchical Multiple Regression Predicting Social Adjustment From Gender, Qualification, Illness Duration, and Emotional Intelligence*

| Predictor | B | SE B | β | t | P |
|---|---|---|---|---|---|
| Block 1: Gender, qualification, Illness duration | | | | | |
| Gender | -0.005 | 0.016 | | -0.33 | 0.740 |
| qualification, | 0.004 | 0.007 | | 0.49 | 0.625 |
| Illness duration | -0.004 | 0.002 | | -1.53 | 0.127 |
| $R^2$ | | | | | 0.021 |
| Adjusted $R^2$ | | | | | 0.008 |
| F | | | | | 1.58 |
| p (model) | | | | | 0.195 |
| Block 2: EI | | | | | |
| Gender | -0.006 | 0.016 | | -0.34 | 0.731 |
| qualification, | 0.004 | 0.007 | | 0.47 | 0.637 |
| Illness duration | -0.003 | 0.002 | | -1.42 | 0.159 |
| EI Total | -0.055 | 0.066 | | -0.84 | 0.403 |
| $R^2$ | | | | | 0.025 |
| Adjusted $R^2$ | | | | | 0.009 |
| $\Delta R^2$ | | | | | 0.004 |
| F change | | | | | 0.71 |
| p (F change) | | | | | 0.403 |

*Note. Block 1 included demographic and clinical control variables. Block 2 added total emotional intelligence. The original manuscript reported standardized coefficients incompletely; therefore, beta values are retained only where clearly available in the source.*

As shown in Table 4, the first regression model, which included gender, qualification, and illness duration, was not statistically significant, $R^2 = .021$, adjusted $R^2 = .008$, $F = 1.58$, $p = .195$. None of the predictors in Block 1 significantly predicted SA: gender ($B = -0.005$, $SE = 0.016$, $t = -0.33$, $p = .740$), qualification ($B = 0.004$, $SE = 0.007$, $t = 0.49$, $p = .625$), or illness duration ($B = -0.004$, $SE = 0.002$, $t = -1.53$, $p = .127$).

After total EI was entered in Block 2, the model explained only a very small additional proportion of variance in SA, $\Delta R^2 = .004$, F change = 0.71, $p = .403$. Total EI was not a significant predictor of SA ($B = -0.055$, $SE = 0.066$, $t = -0.84$, $p = .403$). The coefficients for gender, qualification, and illness duration also remained nonsignificant in the final model. Overall, the regression results indicated that EI did not provide incremental explanatory power for SA beyond the selected demographic and clinical variables

*Qualitative findings*

Qualitative data were collected from 18 EH patients (9 male, 9 female) to examine how they became aware of and perceived their emotional and psychological functioning and their SA in everyday life. Thematic analysis was conducted by the researcher following a systematic, iterative process. Interview transcripts were first subjected to initial open coding, generating preliminary codes closely grounded in the raw data. Related codes were then grouped into broader analytic categories, which were subsequently refined and integrated into overarching themes. To enhance credibility, themes were repeatedly reviewed and refined through iterative comparison with the original data to ensure coherence and internal consistency. Yielding four interrelated themes that closely align with the quantitative patterns observed.

**Theme 1: Awareness of emotions without consistent emotional regulation**

Patients from all interviews expressed a high level of emotional awareness, especially when stressed, irritable, or anxious about their health condition. Nonetheless, they generally regarded that awareness as simply the ability to identify emotions, rather than a transformative awareness of them. Just because the patient can identify an emotion does not mean they can successfully regulate it.

A male patient (3) stated, *"I know when I get tense or angry, especially when my blood pressure is up; that does not mean I can calm myself down."*

Male patient (7) *said, "I feel my mood change; however, most of the time I just keep it to myself and deal with it at a later date."*

Female patient (10) *stated, "I have gained a better understanding of my feelings than I typically had, and my response to my feelings does not necessarily change when I am under stress."* In addition, other patients reported that emotional control was perceived as situational or tenuous.

Patient (16) *stated, "Most of the time I do a good job of managing my emotions, but once I hit a certain level of stress, I lose control, even though I am aware of what is going on."*

The analysis of quantitative data indicated that EI levels in EH patients across all domains are moderate. Those patients have sufficient ability to identify, utilize, and manage their own feelings; however, this is not at a highly developed level. Similar to the qualitative data derived from semi-structured interviews, patients reported regularly having awareness of their emotional response to stress caused by their medical conditions; however, they also reported that at times they did not know how to manage or control their emotional responses due to that same stress.

Male patient (6) stated, *"I can usually tell when I am feeling anxious or irritated because of my high blood pressure; however, there are occasions when I do not know how to stop the feelings from adversely affecting my day."* In addition, the Female patient (13) expressed concern regarding her ability to control her emotions. *"I do my best to remain calm; however, when my blood pressure is high, I cannot always do that. I know what I am supposed to be feeling, but my ability to control those feelings varies."*

The integration of quantitative and qualitative results indicates that EI patients are at a functional level; however, it does not exist at an optimal developmental level. A minority of participants reported experiences that diverged from the dominant pattern, highlighting variability in adaptation and coping.

**Theme 2. Maintaining social roles while limiting social engagement**

The social relationships of most participants in this study were stable, and patients felt comfortable meeting the expectations of their families, workplaces, and communities. Patients identified subtle yet significant constraints on their ability to participate in social activities, including fatigue, emotional burnout, or an inclination to avoid conflict.

Female patient (5) stated, *"I still go to work and see people, but I do not stay as long as I used to; I tire quickly."*

While the male patient (15) also indicated, *"I like to go to family events but now prefer to sit quietly and do not want to participate in conversations that will raise my blood pressure."*

As an example of withdrawal due to being careful in terms of the situations in which to put oneself,

A male patient (14) stated, *"I do not consider myself as having withdrawn from my family; however, I now pay more attention to what types of situations I put myself in."* Some patients have indicated their intent to decrease their engagement in social activities in favor of stability; for example,

Male patient (2) indicated, *"I have good relationships with my family and friends, but they are not great, and they are not bad; I just try to keep everything calm."*

In addition, the female patient (18) stated, *"I concentrate more on avoiding stress than enjoying social events."*

The SA of EH patients across all areas of life was moderate. EH has not significantly disrupted patients' ability to maintain their position in the social structure; however, it has substantially affected the degree and types of relationships, as well as the social roles they pursue. In addition, patients stated that they could continue to perform many key social roles, regardless of how fatigued or less involved they felt at the moment, even as they withdrew from social contact.

As female patients (1) state, *"I still work and see my family, but I cannot socialize like before"*.

Similarly, the male patient (2) noted that this involvement has changed recreationally: "My social connections are fine; however, I do not really go out at all anymore. Staying home, to me, is preferable due to the stress impacting my blood pressure."

These themes reflect findings from the quantitative data, showing that the relative degree of SA is generally adaptive; however, they were somewhat limited. Although the prevailing accounts supported this theme, some participants articulated experiences that ran counter to the dominant narrative, underscoring individual differences in adaptation and coping.

**Theme 3: Emotional awareness without social translation**

Patients reported awareness of their emotional experiences, but this awareness did not always translate into improved functioning or adaptive behaviors in social situations. Several of the patients reported being aware of their emotions regarding the EH diagnosis. It supported the near-zero minimal positive correlation between EI about emotion perception and SA.

Male patient (3) noted, *"I pretty much always know when I am feeling anxious and stressed about my blood pressure, especially before seeing the doctor; however, knowing that does not truly help me when dealing with others."*

Similarly, a Male patient (10) stated, *"I know how I should react emotionally, but when I have added pressure or my family is putting pressure on me, I prefer to keep things to myself."*

**Theme 4: Role of gender, qualification, or illness duration in the level of EI and SA**

Males and females with EH at different qualification levels experienced the same levels of EI and SA.

Female patient (17) said that *although an individual's education level may not correlate positively with her emotional adjustment when suffering from high blood pressure, the individual still experiences the same emotional effect as another without regard to gender.*

Male patient (8) stated simply that *"this illness does not care whether individuals are male or female, it is all about how to cope."* In addition, many participants noted that illness burden and fatigue, as well as social expectations, were more important factors contributing to SA than the duration of patients' illness or their emotional skills.

Female patient (12) commented, "No *matter how strong and emotionally stable an individual is, high blood pressure prevents them from having a social life."*

The integration of quantitative and qualitative results is a narrative-based mixed-methods approach. Using this mixed-methods approach revealed a near-zero correlation between EI and SA ($\Delta R^2 \approx 0.004$, $p > .05$), indicating little explanatory power for the above quantitative relationships. The findings from the qualitative facet of the study clearly illustrated the burden of illness participants experienced and the strategies they employed to adapt to it. While most patients reported maintaining functional social roles despite the emotional strain, several reported greater difficulties adjusting socially, suggesting variability in coping. Collectively, these findings can help explain why moderate though present levels of EI do not lead to improved SA among this study's participants.

## Discussion and Conclusion

This study investigated the relationship between EI and SA among EH patients, focusing on the levels of both. In addition to the extent to which Ei contributes to patients' SA level based on gender, qualification, and EH illness duration. Moderate levels of EI and SA were evident across all domains in EH patients. While the degree of functioning for daily relative demands of emotional health used by the participants most likely would support emotional and social functioning, the interpretation of these findings is limited due to several potential methodological limitations, such as a limited range of scores, reliance on subjective measures of patients' performance, and sampling in one clinical setting. Surprisingly, EI was not associated with SA, nor did it predict SA when controlling for gender, qualification, and illness duration. Rather than challenging established theoretical connections between EI and social functioning, these results suggest that EI and SA may relate at indirect, context-specific, or attenuated levels within populations of individuals with chronic illness. Methodological factors likely contributed to the null correlation between these constructs; specifically, the use of trait EI with the SA measure based on role reflects two different levels of psychological functioning.

In addition, sample homogeneity and sociocultural traditions that promote emotional regulation and stability across roles may have reduced the observed links between emotional competencies and SA. EI may help with intrapersonal stability and emotional awareness, but does not necessarily increase the number of individuals engaged in interpersonal relationships or enhance their ability to engage in social activities outside the home. Further, results indicated that illness duration was not significantly associated with greater levels of SA, suggesting that patients' adaptation to illness may occur through the development of habitual behaviors rather than through the active development of social or emotional skills. While adaptive stabilization may provide a tentative framework for understanding this relationship, it is important to note that its construction was not directly assessed and is therefore offered only cautiously as a post hoc explanation. The present findings differ from studies reporting positive associations between EI and self-management in EH

patients (e.g., Alaamri et al., 2023), likely due to differences in outcome domains: self-management is primarily an individual domain, whereas SA is socially embedded and contextually constrained. Conversely, the results align with evidence indicating that social structure, role continuity, and contextual factors shape adjustment to chronic illness (e.g., Bubulac et al., 2025; Hassan et al., 2025; Kebede et al., 2024). This study suggests that SA levels in EH patients may remain stable despite the absence of strong emotional predictors, underscoring the importance of methodological rigor and contextual considerations when interpreting null findings.

This study presents a context-specific contribution to understanding SA in EH. No statistically significant correlations were found between EI and SA, or between EI and illness duration and SA, among EH patients in this study. It is reasonable to conclude that, in this context, EI plays a more add-on than a primary role in an EH patient's psychosocial functioning. The findings also suggest that EH patients maintain their SA through the consistency of their daily lives and social roles, rather than through increased emotional regulation or social competence. This finding suggests, but is not based on, the direct measurement of the process underlying adaptive functionality in this sample: contextual stabilization.

Additionally, there is overall consistency in participants' descriptions of their individual experiences with EH, with the comparative data reflecting ongoing routine management rather than emotional growth and interpersonal engagement. Together, the qualitative and quantitative data suggest that the patients' psychosocial functioning exhibited greater maintenance and stability, enhancing their development. The conclusion derived from this study does not apply to any other medical condition or subject population. Therefore, further study in the following manner: longitudinal, multiple-site studies, with direct assessment of adaptive mechanisms that contribute to the effects of emotional functioning and contextual variables on social adjustment in individuals with chronic illnesses, is warranted.

There are many limitations to consider when interpreting these outcomes. First, a cross-sectional design limits knowledge of temporal causal relationships between EI and SA; therefore, longitudinal designs are required to assess the evolution of emotional and social functioning within EH patients. Second, this study used a single-hospital purposive nonprobability sample, which limited its external validity. Therefore, the study's results should be considered context-specific and not representative of the EH patient population. Third, both EI and SA were measured solely via self-report. Therefore, there is a high likelihood of response and social desirability biases present in self-reports. Furthermore, there was a limited range and variability in the measured EI and SA scores, potentially weakening the associations between these variables. This type of result contributed to the finding of no association between EI and SA. Fourth, although controlling statistically for gender, qualification, and illness duration, other clinically and contextually relevant characteristics, such as illness severity, amount of quality social support, family dynamics, and comorbid psychological symptoms, were omitted. Although a parsimonious approach was intentionally employed, omitting these characteristics may have masked the indirect or conditional effects of EI and SA outcomes.

Fifth, future studies should examine EI and SA using multiple sources of information and methods, including clinician-rated outcome measures, behavioral measures of SA, and objective markers of SA. Therefore, it should also place a high priority on examining the mediating and moderating mechanisms of EI in relation to SA outcomes, using theoretically based models across multiple sites and diverse clinical and cultural settings to improve generalizability.

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## Declaration of Interest

The authors of this article declared no conflict of interest.

## Ethical Considerations

The study protocol adhered to the principles outlined in the Declaration of Helsinki, which provides guidelines for ethical research involving human participants. Ethical considerations in this study were that participation was entirely optional.

## Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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## Authors' Contributions

All authors equally contribute to this study.

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