

Stimuli and Emotional Responses in English Language Learning: — A Very High Sensitivity Person’s Qualitative Research—

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Abstract

This study investigates the stimuli encountered and the emotions elicited during English language learning by a highly sensitive person (HSP), whose innate Sensory-Processing Sensitivity has traditionally been overlooked in second language learning. The participant, a woman who scored exceptionally high on the Japanese version of the Highly Sensitive Person Scale (HSPS-J19), underwent five semi-structured interviews, each lasting approximately one hour. The narratives obtained were analyzed using the Grounded Theory Approach to trace her psychological processes. The findings revealed that the participant discerned between two categories of stimuli: mere external stimuli and those external stimuli that provoked emotional turbulence. The latter's impact was profound, triggering internal stimuli that further destabilized her emotional state and ultimately culminated in a pervasive sense of self-negation that persists in her daily life. The principal contributing factors were aligned with the four core dimensions of the DOES model—Depth of processing, Overstimulation, Emotional reactivity and Empathy, and Sensitivity to subtleties—commonly used to characterize HSP traits. Notably, these traits were also evident during her English learning experience. The insights derived from this study contribute to the understanding of HSP learners and underscore the importance of integrating their unique characteristics into considerations in foreign language education.

Keywords: Highly Sensitive Person, Stimuli, Emotion, DOES, Qualitative Research

1. Introduction

In the context of foreign language learning, learners are often placed in psychologically vulnerable states (Brewer, 2013), wherein they are exposed to a multitude of stimuli that significantly influence their emotional experiences. Among such individuals, those identified as Highly Sensitive Person (HSP) possess an innately heightened Sensory-Processing Sensitivity (SPS), characterized by a refined attunement to sensory input and an increased susceptibility to subtle environmental stimuli (Aron & Aron, 1997). Consequently, these individuals are more prone to experiencing negative

affective states such as depression and anxiety, which may impede adaptive functioning (Bakker & Moulding, 2012). Moreover, a considerable number of HSPs are diagnosed with a range of psychological disorders, including anxiety-related conditions (Aron, 2020).

Within the field of second language acquisition, the investigation of negative emotions has predominantly centered on the construct of Foreign Language Anxiety (FLA) (Horwitz et al., 1986), which has been empirically shown to exert a detrimental influence on the learning process (MacIntyre & Gardner, 1994). Although a profound interrelation between foreign language learning and affective states has been established, cognition and emotion have traditionally been examined as discrete domains, resulting in a relative paucity of emotion-focused research (Suzuki, 2017). In recent years, however, increasing scholarly attention has been directed toward individual learner differences, thereby advancing our understanding of the affective dimensions of language acquisition (MacIntyre & Gregersen, 2012; Tassinari, 2016). Nevertheless, the inherent trait of heightened sensory-processing sensitivity, as typified by HSP, remains largely unexamined in this context.

Accordingly, the present study undertakes a qualitative inquiry into the stimuli perceived and the emotional responses elicited in HSP learners during the process of English language learning, to elucidate the underlying psychological trajectory. By shedding light on these intricate affective and perceptual dynamics, this research aspires to contribute a foundational perspective for future deliberations on how HSP learners might be more thoughtfully accommodated within the domain of foreign language education.

2. Literature Review

2.1. Processing of Environmental Stimuli and the Function of Emotions

Environmental stimuli that exert psychological and physiological effects are referred to as stressors, which elicit changes in biological functioning (Tuboi, 2010). The psychological stress process experienced by individuals typically follows a trajectory comprising the encounter with a stressor, cognitive appraisal, coping mechanisms, and the manifestation of stress responses (Lazarus & Folkman, 1984). When environmental stimuli are appraised cognitively, they may either not be perceived as burdensome or, if deemed burdensome, be regarded as manageable—both scenarios potentially giving rise to positive emotions and facilitating adaptive functioning. Conversely, when the stimuli

are appraised as unmanageable, negative emotions are likely to emerge, resulting in a maladaptive state.

Emotions, by their very nature, are inherently fluctuating and are shaped not only by present affective experiences but also by the residue of past emotional encounters (Kahneman & Riis, 2005). According to Kahneman and Riis (2005), the volatility of emotion is mediated by two facets of the self—the experiencing self and the remembering self—whereby recollections of past emotional states are posited to influence present cognition and behavior. Thus, emotions are evoked in response to external environmental stimuli and are inextricably intertwined with one's experiential history.

2.2. Emotions in the Context of Foreign Language Learning

Such emotional fluctuations are equally evident in foreign language learning, where positive and negative emotional experiences contribute to the formation of learners' attitudes toward the target language. Emotions experienced throughout the language learning process exert considerable influence. Positive emotions, for instance, have been shown to foster learner autonomy (Oxford, 2011) and are correlated with higher levels of academic achievement (Dewaele & MacIntyre, 2014), facilitating the language acquisition process. Conversely, among negative emotions, foreign language anxiety often provokes tension and depressive sentiments, which in turn hinder learning progress significantly (MacIntyre & Gardner, 1994). Few academic subjects evoke such volatility of emotion as English language learning (Suzuki, 2017), largely due to the abundance of emotionally charged environmental stimuli inherent in the process.

2.3. Highly Sensitive Person in the Context of Foreign Language Learning

Previous research in this domain has not adequately accounted sensitivity of individual learners. Many studies have proceeded under the tacit assumption that all learners are fundamentally similar. However, in practice, learners exhibit considerable variation in their perceptual sensitivities, particularly in how they interpret and internalize environmental stimuli. Recent scholarship has highlighted the existence of learners with a heightened level of Sensory-Processing Sensitivity (SPS), an innate trait that renders individuals more susceptible to external stimuli (Aron & Aron, 1997). Distinct from traits such as nervousness or psychological fragility, this sensitivity leads individuals to be deeply influenced—positively by positive stimuli and negatively by adverse ones—and is encapsulated by the term Highly Sensitive Person (HSP) (Aron & Aron, 1997).

According to Aron (2011), individuals with HSP traits are characterized by four core attributes, collectively referred to by the acronym DOES: 1) Depth of processing (**D**): they engage in profound cognitive reflection in response to stimuli; 2) Ease of Overstimulation (**O**): they are easily overwhelmed by a wide array of sensory inputs; 3) Emotional Reactivity and Empathy (**E**): they exhibit heightened emotional responsiveness and empathy; and 4) Sensitivity to Subtle Stimuli (**S**): they are acutely aware of minute environmental cues. The degree of SPS is largely genetically influenced (Assary et al., 2021), and it is not uncommon for individuals and their caregivers to remain unaware of the presence of this trait. Although this innate characteristic remains underrecognized, empirical evidence suggests that a substantial portion of the population possesses such heightened sensitivity (Aron, 1996).

However, prior research on individual differences within second language acquisition has predominantly focused on factors susceptible to external influence, such as motivation and language learning strategies, while largely neglecting innate traits such as heightened SPS. Consequently, instructional design and classroom practices have seldom taken into account the implications of elevated SPS. Learners with pronounced SPS often suffer from negative emotional states such as depression and anxiety, leading to diminished psychological well-being and lower subjective happiness (Meyer et al., 2005; Booth et al., 2015). Furthermore, elevated SPS is associated with heightened activity in the brain's mirror neuron system, rendering individuals more susceptible to emotional fluctuations (Ishikami & Tanaka, 2022; Tabak et al., 2022). Given that language learning, particularly English, is especially prone to the detrimental effects of anxiety (Teimouri et al., 2019), educators must recognize and accommodate the presence of HSP learners in the foreign language classroom.

Although a connection between HSP and English language learning has been observed, scholarly attention to this relationship remains minimal, and research in Japan is still in its nascent stages (Iimura, 2024). Consequently, there is a pressing need for more multifaceted investigations. While quantitative data indicate that resilience education administered before study abroad experiences yields positive outcomes—namely, an increase in self-esteem and a decrease in depressive tendencies in proportion to the degree of HSP sensitivity (Kibe et al., 2020)—there exists a notable paucity of studies that focus specifically on the stimuli and emotional responses experienced by HSP learners in the context of English language learning.

Accordingly, to bridge this research gap, the present study undertakes a qualitative inquiry into the stimuli perceived and the emotions elicited by HSP learners during English language learning to elucidate their experiential learning processes. By gaining insight into these processes, the study seeks to illuminate the distinctive characteristics of HSP learners and provide a foundational framework for the development of English language learning environments that are attuned to their emotional sensitivities. The following research questions are addressed in this study:

What types of stimuli do HSP learners perceive during English language learning, and what kinds of emotions are subsequently evoked?

3. Methodology

3.1. Research Design

The objective of this study is to elucidate, through in-depth interviews, the types of stimuli perceived by HSP learners during English language learning, as well as the emotional responses elicited, including the underlying processes through which these experiences are shaped. Given the study's emphasis on capturing individual perspectives and experiential trajectories, qualitative research is deemed the most appropriate methodological approach (Cooper, 2012). Accordingly, this study adopts a qualitative research design.

3.2. Participants

The participant in this study is a woman born and raised in Japan. She received six years of formal English education—three years at a public junior high school and an additional three years at a competitive public high school. She has no experience studying abroad and, following her high school graduation, entered a profession that does not require the use of English. According to the Japanese version of the Foreign Language Classroom Anxiety Scale (FLCAS), adapted from Horwitz et al. (1986) and referenced in Yashima et al. (2009), she scored 148 out of a possible 158 points, which, by Alrabai's (2014) classification, denotes an extremely high level of FLA. Nevertheless, she harbors a persistent desire to pursue her childhood dream, which sustains her strong motivation to learn English and recognize it as an essential academic subject. Consequently, she places a significant emphasis on English in the education of her children.

Moreover, the participant continues to experience considerable psychological strain in daily life, primarily due to an acute sensitivity to surrounding stimuli and a

pronounced tendency to over-empathize with the emotions of others. According to the results of the Japanese version of the Highly Sensitive Person Scale, the HSPS-J19 (cf. Takahashi, 2016), adapted from the original scale by Aron and Aron (1997), the participant scored 125 out of a possible 133 points. Following the classification by Takahashi and Iimura (2016), this score indicates an exceptionally high level of sensory-processing sensitivity. By selecting an individual exhibiting both extremely high levels of HSP traits and foreign language anxiety, this study aimed to uncover novel insights into the stimuli perceived and the emotional responses experienced by HSP learners during the process of English language learning.

3.3. Data Collection and Ethical Considerations

Data collection conducted in February 202X through semi-structured interviews focusing on “stimuli perceived and emotions elicited during the English learning process.” The interview was structured around three primary inquiries: a) What stimuli were perceived during past English classes? b) What emotions emerged as a result? and c) In what sequence were these experiences acquired? The aim was to elicit in-depth narratives. Interviews were conducted until data saturation was achieved, totaling five sessions of approximately one hour each, amounting to five hours in total. Although the interviews were conducted in Japanese, the present study is written in English; therefore, all relevant data excerpts were disclosed to the participant in Japanese to confirm the accuracy of content representation.

As an ethical consideration, the purpose of the study, the researcher’s obligation of confidentiality, the participant’s right to withdraw at any point, and the audio recording of the interview were thoroughly explained, and informed consent was obtained. Furthermore, all personal information and data collection dates disclosed in this study, including those in the preceding section, were shared only with the participant’s explicit consent and presented in a manner that precludes personal identification.

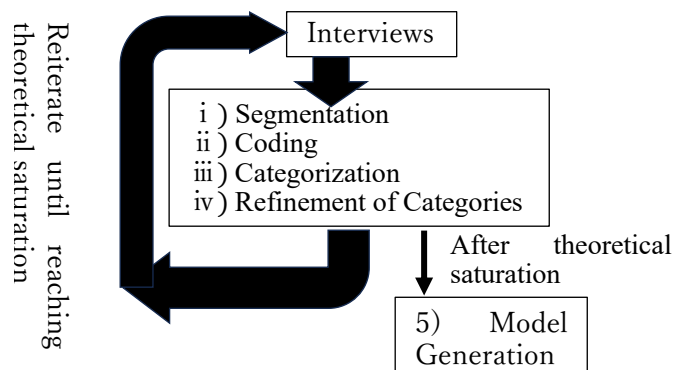
3.4. Data Analysis Method

After transcribing the narratives obtained, the data were analyzed following the procedures outlined by Strauss and Corbin (1990) within the Grounded Theory Approach (GTA), which provides a clear analytical framework. The analysis process comprised the following stages: i) segmentation, ii) coding, iii) categorization, iv) category refinement, and v) model generation. At each stage, the data was consistently referred to to ensure that the analysis remained grounded in the data. The steps from i) to v) were not conducted

as a one-time process; instead, the analysis involved iterative cycles of interviews followed by stages i) through iv). The process is visually represented in Figure 1.

Figure 1

The data collection and analysis methods in this study



Each set of interviews, followed by steps i) through iv), was considered one step in the analysis process. Since a total of five interviews were conducted, the analysis consisted of five steps. GTA is particularly effective for studying phenomena that involve change, as it uncovers the mechanisms through which such changes occur. Given that this study aims to investigate and explore how HSP learners perceive stimuli and how emotions arise during the process of English language learning, GTA was deemed suitable and was therefore adopted for this research.

4. Results

The narratives obtained were analyzed using GTA, resulting in the category groups shown in Table 1. The narrative examples derived from the participants that form the basis of these category groups are also presented in Table 2. Although the interviews were conducted in Japanese, the English translations provided by the author include the original text.

Table 1

The final set of derived category groups

Category Group	Category	Subcategory
Simple External Stimulus	1. Circumstances outside the classroom.	Wandering thoughts divert attention, rendering sustained engagement in the lesson unattainable.
	2. The Sounds and Behaviors exhibited by classmates.	
	3. A Classroom densely populated with individuals.	
	4. The Demeanor and Comportment of the teacher.	
Emotionally	The Atmosphere Cultivated by Classmates	Emotionally Stirring
	The Progression of the Lesson	

Stirring External Stimulus	The Policy of the Test	Internal Stimulus
	The Teacher's Mood and Demeanor	
The Atmosphere Cultivated by Classmates	5. A Tense Atmosphere different from that experienced during junior high school.	Impatience
	6. An Earnest and Zealous Attitude of Study.	
The Progression of the Lesson	7. A lecture conducted exclusively through oral instruction, devoid of any written presentation on the board.	Impatience, Mental Strain, Anxiety
	8. A Class conducted at an exceptionally rapid pace.	
	9. A class that proceeds on the presumption of prior knowledge.	
	10. An instructional policy driven by relentless test-oriented pressure.	
	11. A Liberal School Ethos that entrusts students with autonomous self-direction.	
The Policy of the Test	12. To include content on examinations that has not been explicitly covered during instruction.	A Sense of Inferiority A Sense of Solitude A Fear of the English Language.
	13. The level of difficulty does not translate into improved scores despite studying.	
	14. An overwhelming amount of tests range that cannot be completed.	
The Teacher's Mood and Demeanor	15. The intimidating behavior and statements of the teacher.	Enhancement of Motivation. Reducing Impatience, Mental Strain, Anxiety
	16. The affirming behavior and statements of the teacher.	
Unconscious Internal Stimuli That Evoke Emotional Stirring	17. Awareness of the differences between classmates.	Diminished Self-Esteem, A Sense of Self-Denial.
	18. Awareness of the differences from my past self.	
	19. Negative empathy towards classmates.	
	20. Positive empathy towards classmates.	Reducing A Sense of Inferiority and Solitude
Intrinsic Stimuli except for English Language Learning	21. Awareness of the differences between oneself and others.	A Persistent Sense of Self-Denial continues to this day.
	22. Negative empathy towards others.	

Table2

Exemplary Narratives Elicited

	1. When the custodian passes by outside the classroom, I become preoccupied with wondering what they might be doing, which hinders my ability to concentrate. (用務員さんなどが教室の外を通ると何をするのか気になり集中できない)
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<p>Simple External Stimulus</p>	<p>2. When I hear the sound of a classmate dropping an eraser, I find myself wondering whether they are all right, and when I see someone taking notes fervently, I become curious about what exactly they are writing down. These thoughts invariably distract me and impair my ability to remain focused on the lesson. (クラスメイトが消しゴムを落とした音が聞こえると、消しゴム落ちただけで大丈夫かと思ったり、ノートを必死にとっていると、何をメモしているのかと考えたりして授業に集中できない)</p> <p>3. The mere presence of a large number of individuals within the classroom is, in itself, overwhelming and renders it exceedingly difficult to concentrate.(そもそも教室に人が大勢いるだけで圧倒されて集中できない)</p> <p>4. When the teacher drops and breaks a piece of chalk, I find myself preoccupied with thoughts such as whether they will pick up the fragments, which consequently diverts my attention and makes it difficult to concentrate on the lesson.(先生がチョークを落として割れたけど、あの欠片は捨てるのかな？など先生の様子が気になって授業に集中できない)</p>
<p>The Atmosphere Cultivated by Classmates</p>	<p>5. When I observe my classmates hurriedly jotting down notes or displaying visible anxiety when called upon, I, too, become engulfed in a sense of urgency and apprehension.(クラスメイトが焦ってノートをとっていたり当てられて緊張しているところを見たりすると私も焦ってしまう)</p> <p>6. Whereas, until junior high school, students would jovially socialize during breaks, now everyone is engrossed in studying, creating an atmosphere of palpable tension that instills in me a growing anxiety.(中学まではみんな休み時間はワイワイしていたがみんな勉強していて空気が張り詰めていて焦る)</p>
<p>The Progression of the Lesson</p>	<p>7. Compared to junior high school, the teacher now refrains from using the blackboard and delivers all explanations orally, which necessitates transcribing every detail by hand—an exigency that engenders a heightened urgency and unease.(中学の時と比べると先生は板書もせず全部口頭で説明するため、全部メモしなければならず焦る)</p> <p>8. The exceptionally rapid pace induces a sense of urgency and heightens anxiety.(スピードがとて速くて焦るし緊張する)</p> <p>9. Although the material is being introduced for the first time in class, the instruction proceeds on the assumption of prior knowledge, which engenders a sense of urgency about keeping up and evokes anxiety over the possibility of being called upon and unable to respond.(授業で初めて学ぶ内容なのに知っていること前提で授業が進むため、ついていけるか焦るし、当てられて答えられなかったらどうしようと不安になる)</p> <p>10. Not only immediately following extended holidays but also on a routine basis, the frequent administration of tests induces a persistent sense of urgency to study, heightens tension regarding how much preparation can be accomplished before each test, and provokes anxiety over the potential consequences of underperformance.(連休明けのみだけでなく、普段からテストばかりで、そのたびに勉強しなければと焦り、テストまでにどれだけ勉強できるか緊張し、できなかったらどうしようと不安になる)</p> <p>11. In a high school that emphasized autonomy, offering little guidance to struggling students, and providing no instruction on effective study methods, I was left to navigate my studies alone, which led to constant feelings of anxiety, tension, and a sense of urgency.(できない生徒に手を差し伸べてくれることもなく、勉強法も何も教えてくれず、自主性に任せる自由な高校だったため、1人で焦っていつも緊張して不安だった)</p>
	<p>12. Despite being regular exams, the test content often resembled that of a proficiency test, with questions on material not covered in class, rendering my efforts in studying futile.(テストの内容も定期テストであるのかかわらず、まるで実力テストかのように授業で扱ってないことも出題され、勉強</p>

The Policy of the Test	しても点数に結びつかない)
	13. While everyone else was achieving high scores on the tests, I was unable to do so, which led to feelings of inferiority and isolation.(みんなテストがで点数がとれているのに自分だけできず、劣等感や孤立感があった)
	14. The scope of the test was vast, and I was unable to manage it, which fostered feelings of inferiority and isolation.(テスト範囲も膨大な量で、私にはこなすきれず劣等感や孤立感があった)
The Teacher's Mood and Demeanor	15. One of the teachers was extremely intimidating. When I gave an incorrect answer, I was met with a harsh rebuke, being told, "Is that the only answer you can provide?" He would then remain silent, waiting until I provided the correct answer, which made me feel incredibly pressured. I felt cornered, fearing that if I made another mistake, I would face the same treatment. This situation led to feelings of inferiority and isolation. My anxiety towards English transcended mere apprehension—it became a deep-rooted fear.(ある先生がとても威圧的でした。誤答をいうとそんな解答しかできないのかと威圧的に言われ、正答を言うまでずっと黙って待っているため、とても焦った。自分も間違えると同じ対応をされるのではないかと追い詰められ、できない自分に劣等感や孤立感があった。英語も不安というより恐怖だった)
	16. There was one teacher who was kind and never denied me, regardless of whether I made mistakes. I began to feel that I might be able to try my best in that class, and, as a result, my sense of anxiety diminished, even if just slightly.(一人だけ優しい先生がいて絶対に間違えても否定しなかった。その授業だけは頑張れるかとも思い、不安感も少しだけ減った。)
Emotionally Disruptive Unconscious Internal Stimuli	17. While my classmates were succeeding, I struggled to keep up, tormented by the disparity. I constantly denied myself, thinking, "I'm useless," and to this day, I continue to believe that I am a worthless person.(クラスメイトはできているのに自分だけできず、その差に苦しんでいた。自分って駄目だなと自分を否定し、現在も自分は駄目な人間だと思っている)
	18. Although I was able to perform well academically in middle school, I now find myself unable to do so, which has led me to believe that I am worthless.(中学の時は勉強ができていたのに今はできず、自分は駄目だと思った)
	19. When a classmate is reprimanded for giving an incorrect answer, I feel as though I am being reprimanded myself. Even now, when I see someone feeling down, it affects me, and I too become disheartened.(クラスメイトが誤答を言って責められていると、まるで自分が責められているように感じてしまう。今も落ち込んでいる人を見ると自分も落ち込む)
	20. When a classmate provides the correct answer and is acknowledged, it feels as though I am relieved, too.(クラスメイトが正答を言って認められているとまるで自分もホッとする)
Internal Stimuli Beyond English Learning	21. 22. Even in everyday life, I become acutely aware of the disparities between myself and others, as well as the emotional weight carried by those who are despondent, which culminates in self-denigration. This has been a persistent issue that continues unabated to the present day.(日常生活でも他者と自分の差や落ち込む人の気持ちに気づき自己否定をする。それは現在も続く)

Both tables are numbered, and the numbers correspond to each other. For example, 1) in Table 1 reflects the narrative derived from 1) in Table 2. The results will be described based on the research question, “What stimuli do HSP learners perceive during English learning, and what emotions arise?” As a general premise, the participants' narratives

primarily focus on their high school years.

First, let us consider the types of stimuli the participant experienced. The HSP learner in this study perceived stimuli encountered during the English learning process as falling into two distinct categories. The first consisted of simple external stimuli that did not elicit emotional disturbance. These included: occurrences outside the classroom, auditory and visual cues from classmates, the presence of a large number of individuals within the classroom, and behaviors exhibited by the teacher. Specific examples encompassed the sound of a janitor walking past the classroom, the noise of an eraser being dropped, or the visual distraction of a classmate taking notes, the crowded environment of a shared classroom, and actions such as the teacher accidentally dropping chalk (1~4). While these external stimuli did not provoke overt emotional upheaval, they significantly disrupted the participant's focus, resulting in an inability to concentrate on the lesson content.

The second category comprises external stimuli that provoked emotional agitation. As the term suggests, this category encompasses both the stimuli themselves and the emotions they elicit. Specifically, the participant identified four stimuli: the collective atmosphere created by classmates, the instructional style of the class, the testing policies, and the teacher's mood and demeanor. Compared to the first category, this second category yielded more elaborate narratives.

The participant reported feeling overwhelmed and anxious due to the tense and competitive atmosphere among her high school classmates—an environment markedly different from that of junior high school (5,6). The classroom climate, shaped by classmates' intense dedication to academic success, intensified her internal pressure. Furthermore, the instructional approach differed starkly from previous experiences: teachers refrained from writing on the board, conducted lessons at a rapid pace, and assumed prior knowledge of the content. This pedagogical style left her in a persistent state of anxiety, fearing she might fall behind (7~9). Additionally, the school's test-oriented philosophy, which prioritized frequent assessments as a form of academic pressure, engendered a constant sense of urgency and distress.

The content of the examinations was also highly unorthodox. Despite being regular tests, they often included material not covered in class, with a scope so vast and a level of difficulty so elevated that no amount of preparation seemed sufficient to

guarantee a satisfactory score. The participant, apprehensive that they alone might be struggling while their classmates appeared to manage successfully, experienced a sense of inferiority and isolation (12–14). Moreover, given the school's emphasis on student autonomy, teachers seldom provided proactive support or guidance. As a result, the participant was constantly gripped by tension regarding her capacity to prepare adequately and was overwhelmed by anxiety at the prospect of underperforming on exams (10,11).

The factor that most profoundly distressed the participant was the oppressive demeanor of a particular teacher. This educator would openly berate students for incorrect answers, disparaging them with remarks implying their inadequacy, and would impose prolonged silences until a correct response was produced. This intimidating conduct induced a profound sense of anxiety in the participant, who feared receiving the same treatment for failing to provide the correct answer. As a result, they experienced intense feelings of inferiority and isolation, believing they alone might be unable to respond appropriately. As a consequence of repeated exposure to such an environment, her apprehension towards English evolved into a genuine fear (15).

There were, however, a few exceptions—teachers who adopted a consistently affirming and nonjudgmental approach. Their classes evoked a modest sense of motivation in the participant and slightly alleviated her anxiety, particularly in the context of one instructor whose supportive attitude made her feel that she might be able to persevere in that specific class (16). Nevertheless, while some positive emotions did emerge, the detrimental impact of negative emotions was far more pronounced. The constructive effects of affirmative experiences were, in her case, negligible. Corroborating this, the participant was observed on multiple occasions during the interview to experience emotional turbulence and shed tears, as painful memories resurfaced and acted as powerful emotional stimuli.

Remarkably, the emotionally provocative external stimuli did not solely engender a multitude of negative emotions; rather, they also generated additional internal stimuli that profoundly unsettled the participant's emotional equilibrium. What is particularly noteworthy is that these subsequent stimuli did not originate from the external environment but were internally generated by the participant herself. These internally induced stimuli encompassed realizations regarding disparities between herself and her classmates, as well as between her present and former selves, alongside negative and

positive forms of empathy toward her peers. Without conscious awareness, the participant began to discern these differences, leading to the internalized belief that she was incapable or inherently flawed, resulting in a deep-seated sense of self-denial (17,18).

The most salient finding of this study is that the unconscious internal stimuli that emerged within the participant during the process of English language learning were not confined to that context alone; rather, they extended into other academic subjects and have persisted well beyond English learning. Even in her everyday life, she continues to unconsciously perceive disparities between herself and others, and to involuntarily empathize with them. Consequently, her self-esteem remains markedly low, and she continues to internalize a negative self-denial (21,22).

Based on the findings above, this study has yielded six hypothetical insights in response to the research question concerning the types of stimuli perceived by HSP learners during English language learning and the emotions elicited. Specifically, the HSP learner in this study was found to:

- A. Broadly, perceive two categories of stimuli during English learning: simple external stimuli and emotionally provocative external stimuli.
- B. Experience simple external stimuli as non-emotive yet significantly distracting, impairing the ability to concentrate during lessons.
- C. Encounter emotionally provocative external stimuli that, in the initial stage, give rise to both negative and positive emotional responses.
- D. Find that such emotional responses elicit unconscious internal stimuli, challenge the learner's sense of self.
- E. Be further emotionally destabilized by these internal stimuli, resulting in a marked decline in self-esteem.
- F. Continue to generate such internal stimuli not only in subjects beyond English but also in daily life, thereby perpetuating a heightened sense of self-negation long after disengaging from English learning.

These findings will be examined in greater depth in the subsequent chapter.

5. Discussion

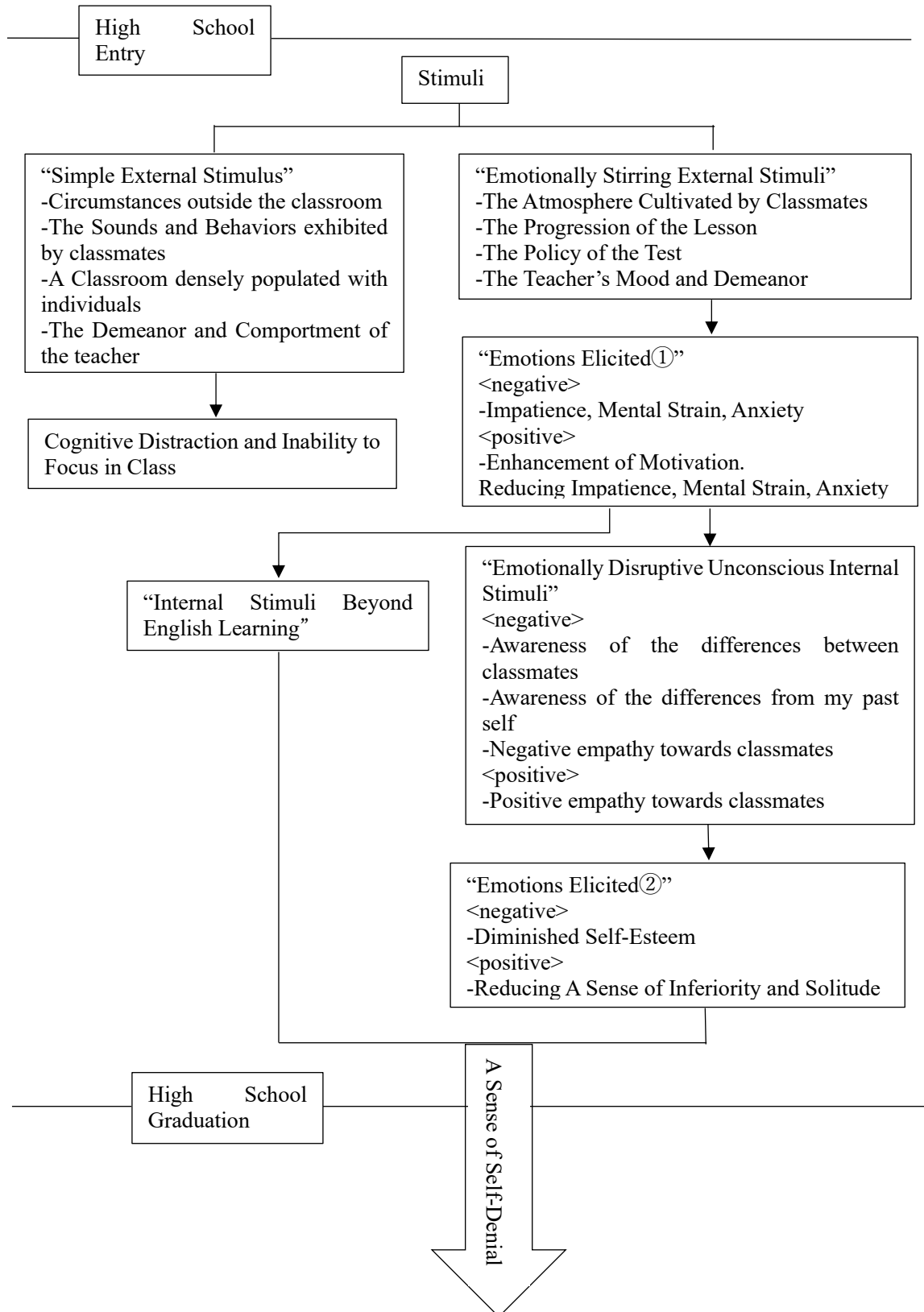
5.1. Model Construction in this Study

In order to aptly encapsulate the hypothetical findings delineated in the

preceding section, a conceptual model was developed for the present study, grounded in the interrelationships among the identified categories (Figure 2). The construction of this model drew upon Kinoshita's (1999) adaptation of the KJ Method, as it affords a cogent framework for articulating both temporal progression and relational dynamics.

Figure2

The Psychological Processes of HSP in the Context of English Language Learning



The composition of the model will now be explicated. As the participant narratives primarily revolve around experiences from the commencement of high school to the present, a temporal axis was established with “High School Entry” positioned at the top of the diagram and “High School Graduation” at the bottom. In alignment with Hypothetical Finding A, the stimuli perceived by the participants were bifurcated into “Simple External Stimuli” and “Emotionally Stirring External Stimuli.” Subsequently, reflecting Findings B and C, arrows were drawn from “Simple External Stimuli” to “Cognitive Distraction and Inability to Focus in Class,” and from “Emotionally Stirring External Stimuli” to “Emotions Elicited ①.” In this model, narrow arrows signify causal or consequential relationships

To further incorporate Findings D and E, arrows were extended from “Emotions Elicited ①” to “Emotionally Disruptive Unconscious Internal Stimuli,” and from “Emotionally Disruptive Unconscious Internal Stimuli” to “Emotions Elicited ②.” Finally, reflecting Finding F, an arrow was drawn from “Emotions Elicited ①” to “Internal Stimuli Beyond English Learning.” From both “Internal Stimuli Beyond English Learning” and “Emotions Elicited ②,” the resultant “Self-Denial” that continues to the present was identified. To illustrate this, the arrows extending from each point were consolidated into a single arrow, leading beyond the temporal axis of high school graduation to position “Self-Denial.”

This model offers a comprehensive visual representation of the specific stimuli and emotional responses experienced by the HSP learners in this study during their English learning process, as well as the sequential order in which these were acquired. By incorporating a temporal axis, the model effectively delineates the duration and continuity of each phenomenon across different stages. With this holistic perspective in place, the subsequent section will undertake a detailed examination of each hypothetical finding through the lens of characteristics intrinsic to HSP.

5.2. Characteristics of Highly Sensitive Persons in the Context of English Language Learning

Here, the distinctive traits of the HSP exhibited by the participants in this study are reiterated (Table 3).

Table3

Characteristics of the Highly Sensitive Personality Trait (Adapted by the Author from Aron, 2011)

Depth of processing(D)	Engages in profound cognitive processing in response to stimuli
ease of Overstimulation(O)	Is prone to becoming overwhelmed by a wide array of stimuli
Increased Emotional reactivity and Empathy(E)	Is predisposed to heightened empathic and affective responsiveness
Greater awareness of environmental Subtlties(S)	Is highly susceptible to even the most subtle or minute stimuli.

Although individuals with HSP are characterized by all four of the traits (Aron, 2011), this section will explore whether these characteristics are similarly manifested in the context of English language learning, taking into account additional attributes commonly associated with HSP.

To begin with, Hypothetical Finding A, although the participant categorized the stimuli perceived during English language learning into two distinct types, the nature of these stimuli themselves appears to be unremarkable and likely perceivable by both HSP and non-HSP individuals alike. However, how these stimuli were processed reveals several characteristics emblematic of HSP. About Hypothetical Finding B, the participant reported a significant diversion of thought due to simple external stimuli (1~4), which rendered it difficult to maintain focus on the lesson itself—an experience that aligns closely with the defining traits of HSP. It can be surmised that the participant engaged in deep cognitive processing (D) of these otherwise mundane stimuli, which led to a sense of being overwhelmed (O), ultimately culminating in an impaired ability to concentrate on the instructional content.

Next is Hypothetical Finding C. As a result of the participant's cognitive appraisal of emotionally evocative external stimuli, certain stimuli, such as the affirming and non-judgmental behavior of a particular teacher (16), were not perceived as burdensome and instead elicited positive emotional shifts, including reductions in feelings of anxiety, tension, and apprehension. In contrast, stimuli such as the classroom atmosphere, the pace of instruction, the testing policy, and the authoritarian demeanor of some teachers (5~15) were appraised as overwhelming and unmanageable. Consequently, these elicited a range of negative emotions, including anxiety, tension, fear, inferiority, and social isolation.

At first glance, these phenomena may be aptly explained by Lazarus and Folkman's (1984) model of psychological stress. However, feelings of inferiority and isolation have been shown to positively correlate with heightened HSP traits (Takahashi,

2016), suggesting that such emotional reactions are characteristic of HSP individuals. Moreover, the participant's ability to experience even a slight positive emotional transformation amid the predominance of negative emotions further exemplifies a core trait of HSPs—their heightened susceptibility to both positive and negative environmental influences (Widaman et al., 2012).

Furthermore, the fact that English came to evoke not merely anxiety but an intense sense of fear can be aptly explained by a core characteristic of HSP: their tendency to internalize others' words with grave seriousness and to experience overwhelming stimulation, which may precipitate a sense of dread and initiate a negative feedback loop (Aron, 1999). Additionally, the transitional process from Hypothetical Finding C to D reveals further evidence of HSP-specific traits. Given that the participant was already in a heightened state of emotional arousal (E) when the emotions described in Finding C emerged, it is plausible that this emotional sensitivity catalyzed the formation of “emotionally disruptive unconscious internal stimuli” as identified in Finding D.

These internal stimuli also revealed numerous traits characteristic of HSP. The participant's heightened awareness of differences between themselves and their classmates or their past self (17, 18) reflects the HSP tendency to notice subtle stimuli (S). Similarly, their susceptibility to both negative and positive forms of empathy toward classmates (19, 20) is indicative of the elevated empathetic capacity (E) commonly associated with HSPs. Furthermore, the deep cognitive processing (D) of these internal stimuli appears to have intensified emotional reactivity (E), ultimately resulting in diminished self-esteem and culminating in a pronounced sense of self-denial, as demonstrated in Hypothetical Finding E. Given that HSPs are generally characterized by lower baseline self-esteem (Ueno et al., 2020), it is reasonable to infer that such traits significantly contributed to the emergence of self-denial tendencies.

This sense of self-denial, as illustrated in Hypothetical Finding F, has not only emerged from internal stimuli encountered during English language learning but has also been perpetuated by stimuli arising in interactions with teachers of other subjects and in everyday life, persisting to the present day. The heightened sensitivity characteristic of HSPs can, at times, lead them to engage in behavior or make decisions that reinforce feelings of self-rejection (Aron, 1999). Furthermore, it has been suggested that individuals with such sensitivity may become increasingly reactive to subsequent similar experiences following past episodes of external invalidation (Minegishi, 2020).

Hypothetical Finding F exemplifies this very phenomenon.

As demonstrated above, a variety of traits associated with HSP are readily observable even within the context of English language learning. From an educational standpoint, it is important to note that what benefits HSPs generally proves advantageous for all learners (Aron, 2020). Thus, when educators engage with students while remaining mindful of the possibility that some may be HSPs, they are more likely to cultivate an environment that is conducive to learning for both HSP and non-HSP individuals alike. This perspective aligns with recent inquiries into the types of teacher behaviors that elicit anxiety or encouragement among learners (Tassinari, 2016), an area increasingly examined through the lens of HSP sensitivity. Educators would benefit from reassessing the learning environment not only from their standpoint but also from the perspective of HSP learners. Furthermore, given that neural patterns associated with HSP traits show remarkable consistency across diverse cultural backgrounds (Aron, 2020), these insights hold relevance not only in domestic educational settings but also for international students studying in Japan and abroad.

6. Conclusion

This study aimed to elucidate the process of HSP learners' experience and response to stimuli and emotions during English language learning. The participants in this study perceived two types of stimuli: simple external stimuli and emotionally perturbing external stimuli. The latter triggered internal stimuli that fostered self-denial, which, after further emotional fluctuations, ultimately led to a persistent sense of self-denial that continues to affect the participants even after their engagement with English learning has ceased.

At the core of this phenomenon lie the four distinctive characteristics of HSP, expressed through the acronym DOES (Aron, 2011), which serve as the primary factors influencing the outcomes observed in this study. It became evident that Aron's (2011) assertions are indeed applicable to the context of English language learning. Specifically, the sensitivity (**S**) inherent in HSPs leads to adverse side effects, where past negative experiences continue to exert detrimental influences, a finding that supports Aron's (2020) research. The results of this study provide new insights into the field of second language acquisition, which has not yet approached the school environment and students' psychosocial development from the perspective of HSPs (Iimura, 2024). Moreover, in the current climate where the mental and physical well-being of HSP learners is of increasing

concern (Iimura, 2024), the discovery of the process through which HSP learners acquire stimuli and emotions, obtained through qualitative research, constitutes a significant contribution to understanding the unique characteristics of HSP learners.

There are two key challenges in this study. The first pertains to the relationship between caregivers and the participants. Since the focus of this study is on HSP learners during English language learning, questions were posed regarding the school environment, where most English learning occurs in Japan. However, the influence of the home environment, like the school environment, varies according to the degree of HSP traits (Sperati et al., 2022). It has also been shown that the relationship with caregivers is related to HSP individuals' well-being and life satisfaction (Liss et al., 2005; Booth et al., 2015). By including an investigation into the relationship with caregivers, it would be possible to better classify types of HSP learners, which could further contribute to a more comprehensive case study.

The second challenge pertains to generalization. In this study, an investigation was conducted into the relationship between academic settings and HSP, a topic that has not yet been examined in existing research (Iimura, 2024), with a particular focus on English language learning, where HSP learners are particularly susceptible to external influences. A qualitative research method, specifically interviews, was employed. As a result, the study yielded vivid, in-depth outcomes, such as moments where participants were brought to tears that could not have been obtained through quantitative research. However, qualitative research does not aim for generalization; instead, it prioritizes understanding the processes and meanings of phenomena. In the future, by expanding the participant pool and identifying patterns, generalization may become possible.

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