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RESEARCH ARTICLE
Psychology

Inner Speech Experiences of Healthy Adults: A Mixed-Method Design Research*

Sağlıklı Yetişkinlerin İç Konuşma Deneyimleri: Karma Desenli Bir Araştırma

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ABSTRACT

In this study, the role of inner speech types and difficulties in emotion regulation in the relationship between psychological well-being, self-regulation, and self-awareness during adulthood was examined. A mixed-methods sequential explanatory design was employed. In the quantitative phase, data were collected from 411 adults aged between 20 and 70, residing in Istanbul, with no reported psychiatric diagnosis; correlation analyses and path analyses were conducted in the R Studio environment. The findings showed that critical inner speech was positively associated with difficulties in emotion regulation and negatively associated with psychological well-being, whereas positive/regulatory inner speech-particularly the self-reinforcement dimension-was positively associated with well-being. The results of the path analysis indicated that critical inner speech negatively predicted well-being, while self-reinforcement, mindful awareness, and self-control positively predicted well-being. In the qualitative phase, semi-structured interviews conducted with 10 participants with high psychological well-being examined the developmental process of inner speech, the contexts in which it emerges, and its positive and negative effects under four themes. When the findings were evaluated holistically, inner speech was found to play a central role in the regulation of emotions, thoughts, and behaviors; a critical tone was identified as a risk factor, whereas a supportive-focused tone served a protective function. This study provides an integrated theoretical contribution by demonstrating that the tone of inner speech, rather than its quantity, is a key determinant of psychological well-being, and by positioning mindful awareness, self-control, and emotion regulation processes as contextual regulators shaping this tone.

Keywords: Inner speech, self-regulation, mindfulness, psychological well-being.

ÖZET

Bu araştırmada, yetişkinlik döneminde psikolojik iyi oluş, öz-düzenleme ve öz-farkındalık arasındaki ilişkide iç konuşma türlerinin ve duygu düzenleme güçlüklerinin rolü incelenmiştir. Karma yöntemli, sıralı açıklayıcı desen kullanılan çalışmanın nicel aşamasında İstanbul'da yaşayan, 20-70 yaş aralığında, psikiyatrik tanısı olmayan 411 yetişkinden veri toplanmış; korelasyon ve yol analizleri R Studio ortamında gerçekleştirilmiştir. Bulgular, eleştirel iç konuşmanın duygu düzenleme güçlüğüyle pozitif, psikolojik iyi oluşla negatif; pozitif/düzenleyici iç konuşma ve özellikle öz-pekiştirme boyutunun ise iyi oluşla pozitif ilişkili olduğunu göstermiştir. Yol analizi sonuçları, eleştirel iç konuşmanın iyi oluşu olumsuz, öz-pekiştirme, bilinçli farkındalık ve öz-kontrolün ise olumlu yönde yordadığını ortaya koymuştur. Nitel aşamada, psikolojik iyi oluşu yüksek 10 katılımcıyla yapılan yarı yapılandırılmış görüşmelerde iç konuşmanın gelişimsel süreci, ortaya çıktığı bağlamlar ve olumlu-olumsuz etkileri dört tema altında ele alınmıştır. Bulgular bütüncül olarak değerlendirildiğinde, iç konuşmanın duygu, düşünce ve davranış regülasyonunda merkezi bir rol oynadığı; eleştirel tonun risk, destekleyici odaklı tonun ise koruyucu bir işlev gördüğü belirlenmiştir. Bu çalışma, iç konuşmanın niceliğinden ziyade konuşma tonunun psikolojik iyi oluş açısından belirleyici olduğunu ortaya koyarak, bilinçli farkındalık, öz-kontrol ve duygu düzenleme süreçlerini bu tonun bağlamsal düzenleyicileri olarak konumlandıran bütünleşik bir kuramsal katkı sunmaktadır.

Anahtar Kelimeler: İç konuşma, öz düzenleme, bilinçli farkındalık, psikolojik iyi oluş.

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INTRODUCTION

It has long been known that people have subjective experiences in which they talk to themselves internally and hear their thoughts in a verbal form; however, since this phenomenon cannot be directly observed through the senses, it is difficult to arrive at a common definition of it in empirical research. Inner speech is addressed by different disciplines such as linguistics, neuroscience, philosophy, psychology, and literature through concepts such as inner monologue, thinking aloud, verbal thought, or inner voice. In its simplest definition, inner speech is expressed as a subjective linguistic experience that continues without audible and explicit articulation (Alderson-Day &

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Fernyhough, 2015). It is assumed that these internal linguistic processes play a fundamental role in the control of cognition, emotion, and behavior, and therefore in the formation of self-regulation (Clowes, 2006).

Inner speech has numerous cognitive and emotional functions. It has been reported that inner speech is effective in decision-making, problem solving, maintaining attentional focus, and regulating task performance; it also supports self-control and behavioral regulation processes (Dolcos & Albarracin, 2014; Tullett & Inzlicht, 2010). On the other hand, the quality of inner speech-that is, whether it is positive/supportive or negative/critical-appears to be decisive in terms of psychological adjustment. Negative, judgmental, and ruminative inner speech has been found to be associated with indicators such as anxiety, depression, perfectionism, shame, and social withdrawal, and in some studies it has even been linked to hallucination proneness and psychotic experiences (McCarthy-Jones & Fernyhough, 2014; Orth et al., 2006; Alderson-Day et al., 2017; Romaioli et al., 2023). By contrast, self-reinforcing and positive/regulatory inner speech has been shown to have a protective effect on self-efficacy, problem-solving skills, academic and athletic performance, and psychological resilience (Hatzigeorgiadis et al., 2012; Uhrich, 2016; Verhaeghen & Mirabito, 2021).

Studies that focus on the relationship between inner speech and psychological well-being reveal that these internal dialogues are closely connected with the individual's self-concept, emotional regulation strategies, and life satisfaction. It is stated that positive inner speech increases self-confidence, reduces stress and anxiety levels, provides flexibility in the face of challenging life events, and therefore strengthens overall psychological well-being (Akyürek & Soyer, 2024; Cerit et al., 2023). Within the framework of Lazarus and Folkman's (1984) stress and coping theory, inner speech is evaluated as a basic internal strategy used in cognitive reappraisal and problem-focused coping processes. Nevertheless, the majority of the literature concentrates on the negative and pathological dimensions of inner speech, and in particular examines the relationships between inner speech and depression, anxiety, rumination, suicidal ideation, and various psychiatric symptoms (Ghavamian Kivi et al., 2023). This indicates that the positive and functional aspects of inner speech in healthy adults have been addressed in a relatively limited number of studies.

In this context, the present study addresses the inner speech experiences of healthy adults in a holistic framework of psychological well-being, self-regulation, and mindfulness. In a large sample of adults living in Istanbul, the relationships between types of inner speech and psychological well-being are examined quantitatively by including the variables of difficulties in emotion regulation, mindfulness, and self-control; subsequently, the subjective experience of inner speech is investigated in depth through semi-structured interviews conducted with participants who have high levels of psychological well-being. The mixed-methods design of the study makes it possible both to test the protective and risky dimensions of inner speech within the same model and to enrich these quantitative findings with individuals' own narratives.

The present study is grounded in the theoretical assumption that the psychological consequences of inner speech depend less on its frequency and more on its qualitative tone. Rather than treating inner speech as a unitary or purely quantitative cognitive phenomenon, this study argues that the distinction between critical and supportive inner speech is central to understanding psychological well-being. Within this framework, mindfulness, self-control, and emotion regulation are conceptualised not as parallel outcomes, but as key antecedents and contextual regulators that shape the tone of inner speech and, in turn, its impact on well-being.

Based on the theoretical framework outlined above, the present study addresses the following research questions:

RQ_1: How are different types of inner speech (critical, supportive, and self-reinforcing) associated with psychological well-being in healthy adults?

RQ_2: How are mindfulness, self-control, and difficulties in emotion regulation related to the tone of inner speech?

RQ_3: Do mindfulness, self-control, and emotion regulation difficulties function as contextual or regulatory mechanisms in the relationship between inner speech tone and psychological well-being?

In line with these research questions, the following hypotheses were formulated:

H_1: Critical inner speech is negatively associated with psychological well-being.

H_2: Supportive and self-reinforcing inner speech are positively associated with psychological well-being.

H_3: Higher levels of mindfulness are associated with lower levels of critical inner speech.

H_4: Higher levels of self-control are associated with lower levels of critical inner speech.

H_5: Greater difficulties in emotion regulation are associated with higher levels of critical inner speech.

H_6: Mindfulness, self-control, and difficulties in emotion regulation jointly function as contextual regulators shaping the relationship between inner speech tone and psychological well-being.

METHOD

The main aim of the study is to examine the mediating/predictive effects of inner speech variables in the relationship between psychological well-being, self-regulation, and mindfulness in adulthood, and to test a comprehensive model by including difficulties in emotion regulation into these relationships. In line with this aim, a mixed-method, sequential explanatory design was employed. In the first phase, quantitative data were collected in order to reveal the relationships among the variables; inner speech types, psychological well-being, mindfulness, self-control, and difficulties in emotion regulation were measured through standardized scales. In the second phase, semi-structured interviews were conducted with individuals selected from among the participants who had high psychological well-being scores in the quantitative phase, and their inner speech experiences were examined qualitatively in depth. In this way, the quantitative findings were explained through qualitative data, providing an interpretive integrity.

The population of the study consisted of adult individuals living in Istanbul. The sample was determined through purposive sampling among volunteers who responded to announcements made via social media. The inclusion criteria were defined as residing in Istanbul, being between 20 and 70 years of age, having at least a primary school education, and not reporting any psychiatric diagnosis. A total of 411 adults who met these criteria participated in the study. The participants' ages ranged from 20 to 68 years, with a mean of 40.81 (SD = 9.47). Of the participants, 72.3% (n = 297) were female and 27.7% (n = 114) were male. Detailed distributions regarding level of education, socioeconomic status, marital status, duration of marriage, having children, and overt inner speech experience are presented in Table 1. There were no participants in the sample who reported having a psychiatric diagnosis.

Table 1. Demographic characteristics of the participants in the quantitative phase

Demographic Characteristics	**N = 4111**
Gender	
Male	114 (28%)
Female	297 (72%)
Age	40.81 (9.47)
Education	
Primary school	11 (2.7%)
Middle school	5 (1.2%)
High school	54 (13%)
University	249 (61%)
Master's degree	77 (19%)
Doctorate	15 (3.6%)
Socioeconomic Status (SES)	
Low	56 (14%)
Middle	326 (79%)
High	29 (7.1%)
Relationship Status	
Married	258 (63%)
Single	121 (29%)
Divorced	32 (7.8%)
Duration of Marriage	
Not married	153 (37%)
Below 15 years	127 (31%)
15 years and above	131 (32%)
Children	
Yes	238 (58%)
No	173 (42%)
Psychiatric Diagnosis	
None	411 (100%)
Overt Inner Speech	
Yes, I can speak aloud.	365 (89%)
No, I cannot speak aloud.	46 (11%)

Note. Values are presented as *n* (%) for categorical variables and *M* (SD) for continuous variables.

In the qualitative phase, the study group was selected from among the participants in the quantitative dataset who had the highest total scores on the Warwick-Edinburgh Mental Well-Being Scale. For this purpose, the well-being scores of 70 participants who agreed to take part in the qualitative phase were ranked from highest to lowest, and

interview invitations were sent sequentially to those with the highest scores. As two participants could not be reached, the main study was conducted with a total of 10 individuals, consisting of five women and five men. The participants were between 30 and 60 years of age and had educational backgrounds at the primary school, high school, and university levels; they represented various occupational groups such as self-employment, sales/marketing, banking, engineering, social work, accounting, and teaching. Prior to the qualitative phase, pilot interviews were conducted with one male and two female participants, and the semi-structured interview form was finalized based on the feedback obtained from these interviews. Detailed demographic information regarding the participants in the qualitative phase is presented in Table 2

Table 2. Demographic characteristics of the participants in the qualitative phase

Participant	Age	Gender	Education	Occupation
P1	52	Male	High school graduate	Self-employed
P2	50	Male	University graduate	Sales/Marketing
P3	38	Female	University graduate	Banker
P4	39	Male	University graduate	Electrical engineer
P5	30	Female	University graduate	Electrical engineer
P6	40	Male	University graduate	Banker
P7	46	Female	University graduate	Social worker
P8	34	Male	University graduate	Certified Public Accountant
P9	50	Female	High school graduate	Accountant
P10	44	Female	University graduate	Teacher
Pilot Study Participants				
Participant	**Age**	**Gender**	**Education**	**Occupation**
P11	47	Male	University graduate	Lawyer
P12	60	Female	Primary school graduate	Homemaker
K13	36	Female	University graduate	Banker

Data were collected using the following measurement tools selected in line with the purpose of the study:

Personal Information Form: This form was prepared by the researcher and includes demographic information such as age, gender, marital status, educational level, occupation, income level, duration of marriage, having children, and history of psychiatric diagnosis.

Self-Talk Scale: The scale developed by Brinthaupt et al. (2009) and adapted into Turkish by Akın et al. was used. It is a 16-item, 5-point Likert-type scale that measures self-talk tendencies. It consists of four subscales: social assessment, self-reinforcement, self-criticism, and self-management. In the present study, the overall internal consistency coefficient of the scale was .91; for the subscales, the coefficients were .81, .80, .79, and .83, respectively.

Varieties of Inner Speech Questionnaire-Revised (VISQ-R): This 18-item, 7-point Likert-type questionnaire was revised by Alderson-Day et al. (2018) and adapted into Turkish by Yılmaz (2023). It includes the subdimensions of dialogic inner speech, positive/regulatory inner speech, evaluative/critical inner speech, presence of other people, and condensed inner speech. In this study, the overall internal consistency coefficient was .85; for the subscales, the coefficients were .85, .74, .78, .84, and .66, respectively.

Warwick-Edinburgh Mental Well-Being Scale: The 14-item, 5-point Likert-type scale developed by Tennant et al. (2007) and adapted into Turkish by Keldal (2015) was used to assess psychological well-being. In this study, the internal consistency coefficient was .91.

Mindful Attention Awareness Scale (MAAS): The 15-item, unidimensional, 6-point Likert-type scale developed by Brown and Ryan (2003) and adapted into Turkish by Özyeşil et al. (2011) was used. In the present study, the internal consistency coefficient was found to be .88.

Self-Control Scale -Short Form: The 13-item short form of the scale developed by Tangney et al. (2004) and adapted into Turkish by Coşkan (2010) was used to assess the level of self-control. In this study, the internal consistency coefficient of the scale was .79.

Difficulties in Emotion Regulation Scale -Short Form (DERS-16): The short form of the scale developed by Bjureberg et al. (2016), based on the original scale of Gratz and Roemer (2004), and adapted into Turkish by Yiğit and Güzey Yiğit (2019), consists of 16 items and five subscales: clarity, goals, impulse, strategies, and nonacceptance. In the present study, the overall internal consistency coefficient was .93; for the subscales, the coefficients were .73, .84, .69, .68, and .55, respectively.

Qualitative Interview Form: The semi-structured interview form developed by the researcher based on the literature consists of nine open-ended questions regarding whether participants engage in inner speech, the onset

and change of inner speech over time, the form and content of inner speech, its functions, the situations in which it becomes more or less intense, and its relationship with psychological state.

Quantitative data were collected online via Google Forms. Participation in the study was based on voluntariness, and electronic consent was obtained from the participants after they were informed about the purpose of the research and the principles of confidentiality. The scales were completed in a single session, and incomplete forms were excluded from the dataset.

Following the completion of the quantitative analyses, the WEMWBS scores of the participants who agreed to take part in the qualitative phase were ranked, and interview invitations were sent via e-mail and telephone to those with the highest scores. In the pilot study, online interviews were conducted with three participants (one male and two females), and the clarity of the questions and the flow of the interview were evaluated through these interviews. After the necessary revisions had been made, the main study was initiated.

In the main study, video-based interviews were conducted via Zoom with five male and five female participants. All interviews were audio- and video-recorded with participants' permission, and the recordings were later transcribed using computer-assisted software.

RStudio software was used for the analysis of the quantitative data. First, missing values, outliers, and violations of assumptions were checked in the dataset. Then, mean, standard deviation, skewness, and kurtosis values for the variables were calculated, and conformity to normal distribution was evaluated.

Pearson correlation coefficients were calculated to examine the relationships among the variables. Path analysis was applied to test the direct and indirect effects of inner speech dimensions on psychological well-being. In the analyses, the lavaan package was used for model specification and testing mediation/moderation relationships; the psych package (Revelle, 2023) was used to calculate Cronbach's alpha coefficients and descriptive statistics; ggplot2 (Wickham, 2016) was used for visualization; and the car package (Fox & Weisberg, 2019) was used to evaluate assumptions and conduct additional descriptive analyses.

For the analysis of the qualitative data, an Interpretative Phenomenological Analysis (IPA) process was followed using the MAXQDA 12 program after the interview recordings had been transcribed. Within this framework, the following stages were carried out: (a) multiple readings of the texts and recording of initial notes, (b) transformation of meaning units derived from the notes into themes, (c) examination of the relationships among themes, and (d) holistic reporting of the thematic structures.

To enhance the reliability of the study, the qualitative data from both the pilot and main applications were independently evaluated by a faculty member who is an expert in IPA and an experienced qualitative analyst; discussions continued until consensus was reached in the coding and theme-development processes. This systematic procedure supported the validity and reliability of the qualitative findings regarding how inner speech experiences are structured in adults with high psychological well-being.

The inclusion of both inner speech and self-talk constructs within the same analytical model represents a deliberate and theoretically grounded choice rather than a methodological weakness. Although these constructs are conceptually related, they capture distinct but complementary aspects of intrapersonal regulation. Specifically, inner speech primarily reflects internal, cognitive-dialogical processes through which individuals interpret experiences and evaluate themselves, whereas self-talk represents a more behaviorally oriented and regulatory form of internal verbalization that is closely linked to motivation, action guidance, and self-management. Accordingly, their simultaneous inclusion allows for a more comprehensive examination of how different layers of internal verbal processes interact with psychological well-being and self-regulatory capacities. In this framework, inner speech dimensions-particularly critical and supportive tones-constitute the core explanatory mechanisms, while self-talk dimensions function as complementary constructs that capture the behavioral and motivational expression of these internal dialogues

FINDINGS

Quantitative Findings

Before presenting the statistical analyses, the descriptive characteristics of the variables included in the quantitative phase of the study were examined. This step was undertaken to provide an overview of the central tendency and distributional properties of the data set, and to evaluate whether the variables displayed a distribution close to normal. For this purpose, means, standard deviations, skewness, and kurtosis values were calculated for each inner speech, self-talk, and psychological functioning variable. These indicators offer an initial picture of how frequently

participants reported different forms of inner and self-directed speech, and how these experiences were associated with well-being, mindfulness, self-control, and emotional regulation difficulties at a descriptive level.

Table 3. Descriptive statistics, skewness and kurtosis values for the variables

Variables	Mean	SD	Skewness	Kurtosis
Inner Speech -Dialogic	4.05	1.38	-0.296	-0.583
Inner Speech -Presence of Other People	2.05	1.06	1.164	1.105
Inner Speech -Condensed	3.23	1.08	0.229	-0.282
Inner Speech -Positive/Regulatory	4.16	1.19	-0.295	0.112
Inner Speech -Critical/Evaluative	2.80	1.34	0.383	-0.626
Self-Talk -Social Assessment	3.00	0.85	0.217	-0.264
Self-Talk -Self-Reinforcement	3.03	0.82	-0.030	-0.403
Self-Talk -Self-Criticism	2.58	0.82	0.563	-0.158
Self-Talk -Self-Management	3.15	0.84	-0.024	-0.342
Self-Talk -Total	47.07	10.76	-0.062	0.231
Warwick-Edinburgh Mental Well-Being Scale -Total	52.02	8.51	-0.620	1.421
Self-Control Scale -Total	43.85	7.39	-0.221	0.076
Mindful Attention Awareness Scale -Total	58.91	12.30	-0.072	-0.177
Difficulties in Emotion Regulation Scale -Total	33.64	11.15	0.866	0.367

Table 3 presents the descriptive statistics together with skewness and kurtosis values for all variables included in the analyses. The mean scores indicate that dialogic inner speech (M = 4.05) and positive/regulatory inner speech (M = 4.16) were reported at relatively higher levels compared to other inner speech forms, whereas the presence of other people in inner speech (M = 2.05) was experienced less frequently. Critical/evaluative inner speech showed a moderate mean level (M = 2.80). Across the self-talk dimensions, mean scores generally ranged around the midpoint of the scale, with self-criticism (M = 2.58) being slightly lower than the others Regarding the psychological functioning variables, participants demonstrated moderate-to-high levels of mental well-being (M = 52.02) and mindfulness (M = 58.91), together with moderate levels of self-control (M = 43.85). Difficulties in emotion regulation showed a moderate mean value (M = 33.64), suggesting variability in participants' regulatory capacities. The skewness and kurtosis coefficients were examined to evaluate distributional normality. Most variables showed skewness and kurtosis values within acceptable theoretical limits (approximately -1.5 to +1.5), indicating that the data did not substantially deviate from normality. Slight positive skewness was observed particularly in critical inner speech and emotion regulation difficulties, suggesting that higher scores were less frequent in the sample. Overall, the descriptive indicators suggest that the assumptions for subsequent parametric analyses were broadly satisfied and that the inner speech and self-talk constructs demonstrated meaningful variability across participants.

Table 4. Correlations, means and standard deviations of the variables

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Inner Speech -Dialogic	4.05	1.38	-													
2. Inner Speech -Presence of Other People	2.05	1.06	.38**	-												
3. Inner Speech -Condensed	3.23	1.08	.06	.11*	-											
4. Inner Speech -Positive/Regulatory	4.16	1.19	.49**	.20**	.09	-										
5. Inner Speech -Critical/Evaluative	2.80	1.34	.38**	.28**	.15**	.15**	-									
6. Self-Talk -Social Assessment	3.00	0.85	.50**	.36**	-.04	.36**	.38**	-								
7. Self-Talk -Self-Reinforcement	3.03	0.82	.26**	.14**	-.02	.48**	-.01	.40**	-							
8. Self-Talk -Self-Criticism	2.58	0.82	.41**	.28**	-.02	.26**	.46**	.70**	.19**	-						
9. Self-Talk -Self-Management	3.15	0.84	.58**	.32**	.01	.48**	.33**	.78**	.51**	.62**	-					
10. Self-Talk -Total	47.07	10.76	.54**	.34**	-.02	.49**	.36**	.90**	.65**	.78**	.90**	-				
11. Warwick-Edinburgh Mental Well-Being Scale -Total	52.02	8.51	-.10	-.12*	-.07	.16**	-.32**	-.11*	.32**	-.22**	-.02	-.01	-			
12. Self-Control Scale -Total	43.85	7.39	-.19**	-.19**	-.07	-.00	-.29**	-.24**	.05	-.33**	-.20**	-.22**	.38**	-		
13. Mindful Attention Awareness Scale -Total	58.91	12.30	-.20**	-.27**	-.07	.01	-.30**	-.25**	.07	-.28**	-.19**	-.20**	.42**	.47**	-	
14. Difficulties in Emotion Regulation Scale -Total	33.64	11.15	.24**	.26**	.13**	.09	.46**	.36**	-.04	.42**	.28**	.32**	-.43**	-.43**	-.41**	-

* p < .05, ** p < .01,

Table 4 presents the means, standard deviations and intercorrelations among the study variables. As seen in the table, the different inner speech dimensions were generally positively interrelated, particularly dialogic inner speech, which showed moderate to strong positive correlations with the presence of other people in inner speech (r = .38, p < .01), positive/regulatory inner speech (r = .49, p < .01) and critical/evaluative inner speech (r = .38, p < .01). Similar patterns were observed for the self-talk dimensions, which were also strongly associated with one another; for example, self-criticism demonstrated a strong positive correlation with social assessment (r = .70, p < .01) and self-management (r = .62, p < .01). With respect to psychological functioning, mental well-being showed small but significant positive associations with self-reinforcement (r = .32, p < .01) and negative associations with critical/evaluative inner speech (r = -.32, p < .01) and self-criticism (r = -.22, p < .01). Self-control and mindfulness

were both negatively related to several inner speech and self-talk variables, particularly critical/evaluative inner speech and self-criticism, while they were positively related to mental well-being. Finally, difficulties in emotion regulation demonstrated the expected pattern of correlations, being positively associated with critical/evaluative inner speech ($r = .46$, $p < .01$), self-criticism ($r = .42$, $p < .01$) and social assessment ($r = .36$, $p < .01$), and negatively associated with mental well-being ($r = -.43$, $p < .01$), self-control ($r = -.43$, $p < .01$) and mindfulness ($r = -.41$, $p < .01$). Overall, the correlation structure indicates that more negative or self-critical forms of inner and self-directed speech tend to accompany poorer psychological outcomes, whereas supportive or reinforcing self-talk is linked with better well-being.

Table 5. Path coefficients for the tested model

Predictor Variable	Outcome Variable	Unstandardized Path Coefficients	Standardized Path Coefficients	Standard Error	t	p
Inner Speech -Presence of Other People	Well-being	0.09	0.01	0.34	0.25	0.801
Inner Speech - Positive/Regulatory	Well-being	0.59	0.08	0.35	1.69	0.090
Inner Speech - Critical/Evaluative	Well-being	-0.71	-0.11	0.30	-2.36	0.018
Self-Talk -Social Assessment	Well-being	-0.24	-0.02	0.56	-0.43	0.670
Self-Talk -Self-Reinforcement	Well-being	2.80	0.27	0.50	5.57	0.000
Self-Talk -Self-Criticism	Well-being	-0.39	-0.04	0.68	-0.57	0.570
Self-Control	Well-being	0.16	0.14	0.06	2.61	0.009
Mindful Awareness	Well-being	0.14	0.20	0.05	2.53	0.012
Difficulties in Emotion Regulation	Well-being	-0.16	-0.22	0.04	-3.71	0.000
Self-Control	Inner Speech -Presence of Other People	0.00	-0.03	0.01	-0.45	0.649
Mindful Awareness	Inner Speech -Presence of Other People	-0.02	-0.19	0.01	-3.01	0.003
Difficulties in Emotion Regulation	Inner Speech -Presence of Other People	0.02	0.17	0.01	2.80	0.005
Self-Control	Inner Speech - Positive/Regulatory	0.00	0.02	0.01	0.41	0.684
Mindful Awareness	Inner Speech - Positive/Regulatory	0.01	0.06	0.01	0.82	0.412
Difficulties in Emotion Regulation	Inner Speech - Positive/Regulatory	0.01	0.13	0.01	2.11	0.035
Self-Control	Inner Speech - Critical/Evaluative	-0.01	-0.07	0.01	-1.33	0.182
Mindful Awareness	Inner Speech - Critical/Evaluative	-0.01	-0.11	0.01	-2.07	0.039
Difficulties in Emotion Regulation	Inner Speech - Critical/Evaluative	0.05	0.39	0.01	7.66	0.000
Self-Control	Self-Talk -Social Assessment	-0.01	-0.07	0.01	-1.12	0.265
Mindful Awareness	Self-Talk -Social Assessment	-0.01	-0.09	0.00	-1.47	0.142
Difficulties in Emotion Regulation	Self-Talk -Social Assessment	0.02	0.30	0.00	5.41	0.000
Self-Control	Self-Talk -Self-Reinforcement	0.00	0.01	0.01	0.24	0.812
Mindful Awareness	Self-Talk -Self-Reinforcement	0.00	0.06	0.00	0.92	0.356
Difficulties in Emotion Regulation	Self-Talk -Self-Reinforcement	0.00	-0.01	0.00	-0.18	0.859
Self-Control	Self-Talk -Self-Criticism	-0.02	-0.16	0.01	-2.73	0.006
Mindful Awareness	Self-Talk -Self-Criticism	0.00	-0.06	0.00	-1.14	0.254
Difficulties in Emotion Regulation	Self-Talk -Self-Criticism	0.02	0.33	0.00	5.95	0.000

Table 5 presents the path coefficients for the tested structural model. When the predictors of well-being are examined, self-reinforcement self-talk emerges as the strongest positive predictor ($\beta = .27$, $p < .001$), followed by mindful awareness ($\beta = .20$, $p = .012$) and self-control ($\beta = .14$, $p = .009$). In contrast, difficulties in emotion regulation significantly and negatively predict well-being ($\beta = -.22$, $p < .001$), while critical/evaluative inner speech also has a small but significant negative effect ($\beta = -.11$, $p = .018$). Other inner speech and self-talk dimensions, including dialogic and social-assessment forms, do not significantly predict well-being when all variables are entered simultaneously. With regard to predictors of inner speech dimensions, difficulties in emotion regulation significantly increase the presence of other people in inner speech ($\beta = .17$, $p = .005$), positive/regulatory inner speech ($\beta = .13$, $p = .035$), and especially critical/evaluative inner speech ($\beta = .39$, $p < .001$). Mindful awareness, on the other hand, significantly decreases both the presence of other people in inner speech ($\beta = -.19$, $p = .003$) and critical/evaluative inner speech ($\beta = -.11$, $p = .039$). Examining the predictors of self-talk dimensions, difficulties in

emotion regulation strongly and positively predict social assessment (β = .30, p < .001) and self-criticism (β = .33, p < .001), while self-control significantly reduces self-criticism (β = -.16, p = .006). No significant associations were found between self-control or mindful awareness and self-reinforcement self-talk. Overall, the model suggests that supportive forms of self-talk (particularly self-reinforcement) play a central role in enhancing well-being, whereas emotion regulation difficulties and critical or evaluative inner talk contribute to poorer psychological functioning, with mindfulness and self-control acting as protective factors mainly through reducing negative self-directed speech.

Table 6. Indirect Effects for the Model

Predictor Variable	Mediator	Outcome Variable	B	Standard Error	t	p	95% Confidence Interval[1]
Mindful Awareness	Inner Speech - Critical	Well-being	0.011	0.006	1.707	0.088	0.001 -0.025
Difficulties in Emotion Regulation	Inner Speech - Critical	Well-being	-0.036	0.016	-2.230	0.026	-0.070 --0.006

In Table 6, the indirect (mediated) effects indicate that critical/evaluative inner speech functions as a pathway through which mindfulness and difficulties in emotion regulation relate to psychological well-being. Mindful awareness showed a small positive indirect effect on well-being via critical inner speech (B = 0.011, p = .088), which was not statistically significant, although the confidence interval narrowly included positive values. This suggests that higher mindfulness may be associated with slightly lower levels of critical inner speech, which in turn could support better well-being; however, this pattern should be interpreted cautiously due to the borderline significance level. By contrast, difficulties in emotion regulation demonstrated a statistically significant negative indirect effect on well-being through critical inner speech (B = -0.036, p = .026; 95% CI = -0.070 to -0.006). This finding implies that individuals who struggle more with regulating their emotions tend to experience greater levels of critical self-talk, and this heightened critical inner dialogue is associated with lower psychological well-being. Together, the results highlight critical inner speech as a meaningful cognitive-emotional mechanism linking regulatory capacities to well-being outcomes.

Table 7. Pearson Correlations for Participants Reporting No Inner Speech

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Inner Speech - Dialogic	2.43	1.10	-												
2. Inner Speech - Presence of Other People	1.44	0.66	.26*	-											
3. Inner Speech - Condensed	3.19	1.00	.26*	.16	-										
4. Inner Speech - Positive/Regulatory	3.21	1.38	.39**	.12	.21	-									
5. Inner Speech - Critical/Evaluative	2.29	1.38	.46**	.42**	.33*	.30*	-								
6. Self-Talk - Social Assessment	2.55	0.96	.49**	.28*	.06	.44**	.53**	-							
7. Self-Talk -Self-Reinforcement	2.63	0.97	.22	-.04	.07	.58**	.09	.35**	-						
8. Self-Talk -Self-Criticism	2.25	0.84	.40**	.42**	.24	.29*	.51**	.81**	.23	-					
9. Self-Talk -Self-Management	2.59	0.85	.48**	.12	.27*	.59**	.35**	.78**	.63**	.69**	-				
10. Self-Talk - Total	40.05	11.94	.48**	.23	.19	.58**	.44**	.89**	.68**	.81**	.93**	-			
11. Warwick-Edinburgh Mental Well-Being Scale -Total	52.91	10.51	-.01	-.04	-.03	.33*	-.13	-.03	.35**	-.05	.11	.12	-		
12. Self-Control Scale -Total	45.24	7.30	-.02	-.07	.03	.02	-.34*	-.26	.03	-.35**	-.08	-.20	.18	-	
13. Mindful Awareness Scale - Total	59.30	13.51	.03	-.17	-.26	.17	-.34*	-.06	.23	-.14	.09	.04	.56**	.26	-
14. Difficulties in Emotion	33.54	9.97	.12	.15	.34*	.05	.38**	.31*	-.02	.39**	.21	.26	-.16	-.49*	-.52*

Regulation Scale - Total	*	*

In this subsample, where participants reported difficulty engaging in inner speech, the correlations show a coherent pattern between the dimensions of inner speech, self-talk, and psychological functioning. Dialogic inner speech was positively associated with the presence of other people in inner speech, condensed inner speech, positive/regulatory inner speech, and especially critical/evaluative inner speech, indicating that-even in this group-those who experience inner dialogue tend to report multiple forms of internal verbalization. All inner speech dimensions were strongly and positively related to the self-talk factors, with the highest associations observed between critical/evaluative inner speech and self-criticism as well as social assessment self-talk. Self-talk totals were, as expected, very highly correlated with all self-talk subdimensions. Psychological well-being showed a positive association only with positive/regulatory inner speech and self-reinforcement self-talk, while demonstrating no meaningful relation with critical or socially evaluative forms of self-talk. In contrast, difficulties in emotion regulation were positively associated with critical/evaluative inner speech and self-criticism and negatively associated with self-control and mindfulness-mirroring the typical distress pattern in the broader sample. Mindfulness and self-control were strongly and positively related to well-being, while demonstrating negative associations with emotion regulation difficulties. Overall, the pattern suggests that even among individuals who struggle with inner speech, more critical, evaluative, and socially oriented self-talk tends to cluster together and relate to greater emotional dysregulation, whereas positive or motivational self-talk shows small but beneficial links with psychological well-being.

QUALITATIVE FINDINGS

The qualitative findings are presented to deepen and contextualise the quantitative results, in line with the explanatory sequential mixed-methods design. Specifically, the interviews were used to clarify how, when, and in which contexts different tones of inner speech emerge and how they are subjectively experienced. Thirteen participants (coded as P1-P13) took part in the interviews. The analysis yielded four main themes: (1) the developmental process of inner speech, (2) the emergence of the need for inner speech, (3) the negative effects of inner speech, and (4) the positive effects of inner speech. Each theme is presented below, followed by a brief integrative interpretation linking the qualitative insights to the quantitative findings.

Theme: Developmental Process of Inner Speech

This theme captures participants' reflections on how inner speech develops and changes across the life span. Three codes were identified: childhood, late adolescence, and decrease or transformation in adulthood.

Most participants reported that inner speech emerged early in childhood and was initially characterised by imagination and play-like dialogues. For example:

P5: *"I feel as if I have been talking to myself from the beginning of my existence… as if it has always been there."*

Others described a qualitative shift over time, noting that inner speech became more controlled, less frequent, or more instrumental in adulthood:

P10: *"When I was a child, it was more imagination and play. Now my inner voice works more when I cannot react openly, especially at work."*

Some participants indicated that inner speech became salient only in late adolescence, coinciding with increased self-awareness and social evaluation:

P1: *"I don't remember it from childhood, but after high school it started to happen."*

These developmental accounts help explain why inner speech should not be treated as a static or purely quantitative phenomenon. The observed variation across life stages supports the quantitative finding that the tone of inner speech, rather than its mere presence, is critical for psychological well-being.

Theme: Emergence of the Need for Inner Speech

This theme addresses when and why individuals feel a need to engage in inner speech. Ten codes were identified, including overthinking, regret, stress, being alone, emotional balancing, internal evaluation, perspective-taking, planning, psychological need, and preference for real interactions.

Participants consistently reported that inner speech intensified during stressful, emotionally unresolved, or interpersonally incomplete situations:

P3: *"If there was something I needed to say and couldn't say, then it stays there and I keep talking to myself."*

Inner speech was also frequently described as a strategy for emotion regulation and self-soothing:

P7: *"It helps me calm myself and understand the situation through my own filter."*

Others highlighted its role in planning and rehearsal, particularly in work-related or performance contexts:

P2: *"Before meetings, especially when I'm alone, I rehearse what I will say in my head."*

At the same time, some participants emphasised that inner speech does not replace real interpersonal communication:

P6: *"I prefer talking to the actual people involved rather than only talking inside myself."*

These accounts illuminate the quantitative result showing that emotion regulation difficulties are positively associated with critical inner speech. Situations characterised by unresolved emotions and stress appear to trigger more intense and evaluative inner dialogues, supporting the model in which emotion regulation functions as a contextual regulator of inner speech tone.

Theme: Negative Effects of Inner Speech

-This theme focuses on contexts in which inner speech becomes maladaptive. Seven codes were identified: increasing anxiety, re-experiencing emotions, difficulty focusing on the present, negative thinking, headache, self-judgment, and being misled.

Participants frequently described inner speech as amplifying anxiety and emotional distress:

P2: *"It always turns into something that stresses me out."*

Several participants reported ruminative cycles, in which past negative experiences were repeatedly re-lived:

P13: *"When I think about something that made me angry, I feel that anger again."*

Others noted attentional difficulties and physical strain:

P10: *"I'm disturbed by constantly hearing an inner voice; it rarely stops."*

Self-judgment and harsh self-criticism were also salient:

P5: *"There were times when I treated myself very harshly."*

These narratives directly clarify the quantitative finding that critical inner speech is negatively associated with psychological well-being and positively associated with emotion regulation difficulties. The qualitative data show how critical inner speech manifests in everyday life as rumination, anxiety, and self-blame, thereby explaining its detrimental impact on well-being.

Theme: Positive Effects of Inner Speech

This theme captures the adaptive and supportive functions of inner speech. Six codes were identified: expressing emotions, self-motivation, generating solutions, positive life orientation ("think good, live good"), making life easier, and effective communication.

Participants described inner speech as a means of emotional expression and self-support:

P6: *"I can confide in myself."*

Motivational and self-reinforcing inner dialogues were frequently reported:

P5: *"I tell myself 'well done' when I handle something well."*

Inner speech was also described as facilitating problem-solving and decision-making:

P10: *"Even if I talk to others, the final decision usually comes from my inner voice."*

Mental rehearsal before social interactions or performances was another prominent function:

P11: *"Rehearsing it in my head helps me communicate more effectively later."*

These experiences provide qualitative support for the quantitative finding that supportive and self-reinforcing inner speech is positively associated with psychological well-being. They illustrate how a supportive tone functions as a protective mechanism, enhancing self-regulation, confidence, and adaptive coping.

DISCUSSION AND IMPLICATIONS

Discussion of the Quantitative Dimension

Discussion of the Relationships

The quantitative findings of the present study show that different forms of inner speech (e.g., dialogical, positive, critical) and self-talk (social evaluation, self-reinforcement, self-criticism, self-management) are systematically related to psychological well-being, self-control, mindfulness and emotion regulation difficulties. In particular, critical inner speech was positively associated with emotion regulation difficulties (r = .46) and negatively associated with psychological well-being, self-control and mindfulness, whereas positive inner speech (r = .16) and self-reinforcement (r = .32) were positively related to psychological well-being. At the same time, higher overall levels of inner speech/self-talk were linked to lower self-control (r = -.22) and mindfulness (r = -.20), suggesting that a greater quantity of inner speech does not necessarily yield greater psychological benefit.

The positive relation between critical inner speech and emotion regulation difficulties (r = .46) is consistent with studies indicating that evaluative and judgmental inner dialogue undermines empathy and social interaction (Chauhan & Rai, 2013) and increases emotional instability and stress (Dyson-Horton, 2021). Dolcos and Albarracin (2014) likewise showed that addressing oneself in the second person ("you") may have a more constructive and regulatory effect than engaging in negative, self-critical talk, which tends to exacerbate emotion regulation problems. In contrast, the positive associations of supportive inner speech and self-reinforcement with well-being are in line with work suggesting that consciously using inner speech in a positive way can enhance self-awareness and psychological well-being (Morin, 2005) and that parental use of positive communication styles strengthens motivational self-talk and well-being in young people (Moffitt, 2022). Similar conclusions are reported by Verhaeghen and Mirabito (2021), who characterize positive and self-reinforcing inner speech as a protective factor.

The negative correlations between global inner speech/self-talk and both self-control and mindfulness emphasize the need to distinguish between the quantity and quality of inner speech. While Tullett and Inzlicht (2010) showed that completely blocking inner speech can increase impulsive behaviour, they also warned that very intense or scattered inner speech may impair self-regulation. Recent theoretical accounts such as Endicott's (2024) "Body Error Theory" and the work of Racy and Morin (2024) similarly argue that not only the presence but also the mode of experiencing inner speech is critical for attention control and self-regulation. Overall, the present pattern fits a broader literature in which critical or negative inner speech is treated as a risk factor, whereas positive and self-reinforcing inner speech is considered protective (Dyson-Horton, 2021; Ghavamian Kivi et al., 2023; Verhaeghen & Mirabito, 2021).

Finally, the consistency of these findings with previous research appears to stem from theoretical frameworks that highlight the central role of inner speech in emotion regulation, self-awareness and self-regulation (Carruthers, 2018; Morin, 2009, 2024). Nevertheless, differences in samples, measurement instruments cultural context and research design may account for discrepancies across studies. The present sample, composed largely of university-educated adults with a medium socioeconomic status, may have shaped how inner speech is experienced and reported. Future research should therefore examine these relationships in groups with different sociocultural characteristics and mental health profiles to clarify the generalizability of current findings.

Taken together, these findings suggest that the impact of inner speech on psychological well-being cannot be adequately explained by its mere frequency or presence. Rather, the qualitative tone of inner speech-particularly the distinction between critical and supportive forms-emerges as a key mechanism shaping emotional regulation, self-control, and mindfulness. This pattern indicates that inner speech functions not only as a cognitive activity but also as an affective regulatory process, in which critical inner dialogue may operate as a vulnerability factor, whereas supportive and self-reinforcing inner speech may serve a protective role. Accordingly, the present findings underline the importance of conceptualising inner speech in terms of its functional and emotional qualities rather than treating it as a unitary construct.

Discussion of the Mediating Effects

The findings of the study indicate that, in the relationship between different forms of inner speech and psychological well-being, the "Inner Speech -Critical" dimension has a negative predictive effect. This supports previous research showing that critical inner speech can weaken individuals' emotional balance and self-esteem (Chauhan & Rai, 2013; Dyson-Horton, 2021). By contrast, the "Self-Talk -Self-Reinforcement" dimension positively predicts psychological well-being, suggesting that maintaining a constructive and affirming inner dialogue may enhance emotional balance and feelings of happiness (Moffitt, 2022; Morin, 2005). The opposite

directions of these two effects clearly demonstrate the decisive role of the qualitative content of inner speech in mental health.

Self-control was also found to have a positive effect on well-being, consistent with previous findings that the ability to regulate one's impulses and behaviours contributes to happiness and life satisfaction (Dolcos & Albarracin, 2014; Tullett & Inzlicht, 2010). Likewise, the positive association between mindfulness and psychological well-being supports the idea that mindfulness-based processes reduce stress and anxiety (Alderson-Day & Fernyhough, 2015; Morin, 2009). In line with earlier research (Ghavamian Kivi et al., 2023), the negative effect of emotion regulation difficulties on well-being in this study shows that individuals who struggle to regulate emotions tend to experience lower life satisfaction and poorer mental health.

Among the inner speech subdimensions, "Presence of Others" was negatively predicted by mindfulness and positively predicted by emotion regulation difficulties. This may indicate that individuals with higher mindfulness orient their inner speech more toward their own direct experiences and "being in the moment" (Racy & Morin, 2024), whereas those who struggle with emotion regulation might engage more frequently in inner dialogues that incorporate the imagined presence or evaluation of others-possibly reflecting a stronger focus on social judgement (Chauhan & Rai, 2013).

Mindfulness negatively predicted critical inner speech, while emotion regulation difficulties strongly and positively predicted it. This supports the view that negative inner content becomes especially prominent among individuals who experience difficulties regulating their emotions (Dyson-Horton, 2021). Conversely, individuals who use mindfulness skills more extensively may sustain a less critical and more accepting inner dialogue (Morin, 2005). From this perspective, mindfulness-based interventions appear promising for reducing the intensity and impact of negative inner speech.

Regarding self-talk, the association between self-talk -social evaluation and emotion regulation difficulties may reflect a tendency to continually evaluate oneself through the perceived eyes of others (Ghavamian Kivi et al., 2023). Additionally, the finding that self-control reduces self-criticism suggests that the ability to discipline one's actions may help diminish harsh or blaming self-evaluations (Dolcos & Albarracin, 2014). However, when emotion regulation difficulties are present, self-critical processes may become stronger and more dominant, potentially harming psychological well-being (Dyson-Horton, 2021).

Taken together, these results indicate that the relationships between types of inner speech, well-being and self-regulatory processes are complex and multilayered. While critical and socially evaluative inner speech appear to intensify emotional dysregulation, constructive elements such as self-reinforcement and self-control may protect or enhance well-being (Morin et al., 2011). Therefore, both cognitive and emotional mechanisms need to be examined together when explaining the mediating role of inner speech (Schumacher & Lomax, 2004). Within this framework, strengthening mindfulness and self-control skills may reduce the negative effects of critical inner dialogue and promote the dominance of more supportive inner speech content, offering a valuable direction for future interventions.

Discussion of the Indirect Effects

The finding that critical inner speech influences psychological well-being through its interaction with mindfulness and emotion regulation difficulties is consistent with prior research emphasising the role of inner speech in cognitive and emotional regulation processes (Chauhan & Rai, 2013; Dyson-Horton, 2021). Individuals with higher levels of emotion regulation difficulties appear more prone to negative inner dialogue (i.e., critical inner speech), which in turn predicts poorer well-being. This aligns with models of psychopathology that link rumination, anxiety and depression to maladaptive self-talk patterns (Ghavamian Kivi et al., 2023). In other words, people who struggle to regulate their emotions tend to experience more frequent self-critical and judgemental inner speech, and this may have a directly impairing effect on well-being (Alderson-Day & Fernyhough, 2015).

Although the indirect effect of mindfulness on well-being through critical inner speech did not reach full statistical significance, the effect was close to the significance threshold. This suggests that mindfulness may not completely eliminate negative inner dialogue, but may buffer or soften it (Morin, 2005). Mindfulness-based approaches help individuals to recognise automatic, negative inner speech earlier and to cognitively re-frame it, which has been shown to protect against stress and anxiety (Morin, 2009). However, the relatively modest size of the indirect effect indicates that the extent to which mindfulness reduces critical inner speech may vary depending on participant characteristics, the nature of the measurement instrument or individual differences (Racy & Morin, 2024).

As also observed in the present study, critical inner speech shows the strongest interaction with emotion regulation difficulties. It is therefore unsurprising that individuals experiencing emotional strain develop a more frequent and

negatively-toned inner dialogue (Dolcos & Albarracin, 2014). Lower mindfulness may simultaneously hinder recognition of these automatic negative thoughts, allowing them to persist in a self-critical cycle (Morin et al., 2011). Thus, participants with greater emotion regulation difficulties may be particularly vulnerable to increases in the frequency and intensity of critical inner speech, which could progressively undermine their well-being.

These results indicate that critical inner speech may operate as an indirect mediating mechanism, with both mindfulness and emotion regulation ability functioning as key variables within this process. Enhancing mindfulness skills may enable individuals to detect and transform self-critical thought patterns earlier, functioning as a protective buffer for psychological well-being (Tullett & Inzlicht, 2010). At the same time, the findings show that mindfulness alone does not completely eliminate negative inner dialogue, highlighting the value of combining mindfulness-based approaches with emotion-regulation-oriented psychotherapies and cognitive-behavioural interventions (Racy & Morin, 2024).

From both a theoretical and applied perspective, the indirect connection between critical inner speech, mindfulness and emotion regulation difficulties underscores the importance of interventions that reduce self-critical inner dialogue among individuals who struggle with emotional regulation. Psycho-educational and therapeutic strategies such as cognitive re-framing, self-compassion work and mindfulness-based therapies may therefore be beneficial. Likewise, interventions aimed at enhancing mindfulness may help individuals recognise critical thought cycles more clearly and replace them with more adaptive strategies (Chauhan & Rai, 2013). Collectively, such approaches may mitigate the negative impact of critical inner speech on psychological well-being and support the development of a healthier inner dialogue

Individuals Who Reported Being Unable to Engage in Inner Speech

Among the participants who stated that they were unable to engage in inner speech, the findings showed that psychological well-being (Warwick-Edinburgh Mental Well-being Scale -Total) was positively associated with mindfulness (r = .56) and negatively associated with difficulties in emotion regulation (DERS-16; r = -.52). This pattern is consistent with the view that higher levels of mindfulness support well-being and reduce emotional distress (Morin, 2005; Racy & Morin, 2024). It is possible that individuals who report an absence of inner speech rely on alternative cognitive or emotional self-regulation strategies-such as maintaining an observer perspective or attending to bodily sensations-rather than verbal self-talk (Endicott, 2024).

The negative correlation between self-control and emotion regulation difficulties (r = -.49) also parallels previous findings suggesting that individuals with stronger self-control skills are generally more successful in managing emotionally challenging experiences (Dolcos & Albarracin, 2014; Tullett & Inzlicht, 2010). The fact that the inability to use inner speech does not seem to directly disrupt this relationship suggests that self-control is not solely dependent on verbal-auditory inner dialogue, but may also be supported by other mental processes such as visual or sensory strategies (McCarthy-Jones & Fernyhough, 2014).

Although the sub-dimensions of inner speech (e.g., dialogic, positive, critical) and private speech (e.g., social evaluation, self-reinforcement, self-criticism, self-regulation) were not entirely absent among these participants, their mean scores were lower than those of individuals who reported engaging in inner speech. This may indicate that these individuals use an “inner voice” only to a limited extent-or perhaps without conscious awareness (Morin, 2009). For instance, the modest yet significant correlation between Positive Inner Speech and well-being (r = .33) suggests that-even if they do not label it as such-these individuals may still experience occasional motivational or supportive thoughts (Carruthers, 2018).

The strong association between mindfulness and well-being (r = .56) also implies that psychological well-being may be maintained through strategies such as “staying in the present moment” and “observing thoughts without judgement,” regardless of the quality or frequency of inner speech (Alderson-Day & Fernyhough, 2015; Morin, 2010). These individuals may therefore approach experiences with a non-verbal, observer-type awareness, rather than relying on a verbal or dialogic inner voice (Kompa, 2023). Consequently, limited or absent inner speech does not necessarily imply low mindfulness or poor emotion regulation. On the contrary, such individuals may develop effective self-regulation through alternative cognitive strategies such as visual imagery or sensory awareness (Heavey & Hurlburt, 2008).

In summary, even among individuals who report being unable to engage in inner speech, key determinants of psychological well-being remain difficulties in emotion regulation, mindfulness and self-control. Although the frequency and variety of inner speech are relatively low in this group, they may still maintain or enhance their well-being through positive cognitive-behavioural strategies (Morin et al., 2011). These findings suggest that self-

regulation is not limited to verbal inner dialogue and that cognitive diversity plays an important role in supporting mental health.

Discussion of the Qualitative Dimension

The qualitative component of the present study was not intended to replicate the quantitative findings, but rather to contextualise and deepen them by illuminating how different forms of inner speech are experienced in everyday life. Specifically, the qualitative themes address the situational, emotional, and relational contexts in which critical, supportive, and socially evaluative inner speech emerges. In this respect, the qualitative findings provide explanatory insight into the statistical associations identified in the quantitative analyses, clarifying when, how, and under which conditions particular inner speech patterns become psychologically adaptive or maladaptive.

The qualitative findings of the study group participants' inner speech experiences under four main themes: the developmental process of inner speech, the emergence of the need for inner speech, the negative effects of inner speech, and the positive effects of inner speech. These themes reflect previous research addressing the role of inner speech in mental health, cognitive functioning, and self-awareness (Alderson-Day & Fernyhough, 2015; Morin, 2009).

Participants' accounts indicating that inner speech habits emerged during childhood and adolescence parallel the model proposed by Moffitt (2022) within the context of parent-child interaction. In particular, statements suggesting that parental communication styles shape how children talk to themselves are consistent with Chauhan and Rai's (2013) findings on the role of inner speech in empathy and social interaction. Likewise, Carruthers' (2018) emphasis on cognitive regulation aligns with participants' reports that they frequently used inner speech to solve problems or regulate emotional states.

Participants also stated that the need for inner speech increased particularly in stressful or uncertain situations. This resonates with Ghavamian Kivi et al. (2023), who emphasised the predictive role of inner speech types in psychological difficulties. The findings also suggest that the need for inner speech becomes more salient when emotional regulation is strained or when self-awareness must be heightened (Morin, 2005), supporting theoretical perspectives that inner speech plays a regulatory role in coping with stress and decision-making (Alderson-Day & Fernyhough, 2015).

A number of participants reported that critical or judgmental inner speech triggered anxiety and emotional distress. This is consistent with Dyson-Horton (2021), who showed that a harsh inner voice may undermine self-image and well-being, and with Chauhan and Rai (2013), who found that negative inner speech may hinder empathy and social functioning. Themes such as fear of being judged by others indicate that social-evaluation-oriented thought patterns can become mentally burdensome (Ghavamian Kivi et al., 2023).

Conversely, many participants perceived inner speech as motivating, supportive, and helpful for decision-making. These accounts support the claims that inner speech may foster self-awareness and self-regulation (Morin, 2009; Verhaeghen & Mirabito, 2021). Participants often stated that self-encouraging or reassuring inner dialogues reduced stress and facilitated solution-focused thinking, which parallels Dolcos and Albarracin's (2014) findings that constructive forms of inner speech may enhance self-control and behavioural regulation.

Overall, the qualitative findings demonstrate that inner speech has both positive and negative aspects, and that these dimensions are shaped by developmental history, emotional regulation capacity, and social experiences. These results support theoretical perspectives emphasising the multidimensional nature of inner speech in relation to self-perception, cognition and mental health (Carruthers, 2018; Morin, 2005, 2009; Alderson-Day & Fernyhough, 2015).

Discussion on the Theme of the Developmental Process of Inner Speech

Participants' reflections on childhood, late adolescence, and adulthood provide important insights into how inner speech develops across the life course. The frequent emphasis on childhood suggests that the foundations of inner speech emerge early, often expressed through imaginative or play-based monologues. Similarly, Alderson-Day and Fernyhough (2015) reported that overt childhood monologues increasingly shift toward silent, internal forms of speech.

Some participants indicated that inner speech becomes less frequent or more controlled in adulthood. This aligns with the notion that the spontaneous, externalised quality of childhood self-talk becomes more automated and cognitively embedded later in life (Morin, 2009). In adulthood, inner speech appears to serve primarily self-regulatory and problem-solving purposes (Carruthers, 2018). For example, one participant (K10) described how

imaginative childhood inner speech later evolved into practical, work-related cognitive dialogue, indicating a shift toward more realistic and task-oriented inner content.

Other participants stated that inner speech became particularly salient in late adolescence, a period characterised by identity development, sensitivity to social evaluation, and emotional fluctuation (Moffitt, 2022). Increased self-awareness and intensified social meaning-making processes during this period may lead individuals to engage more critically with their inner voice (Chauhan & Rai, 2013).

A key observation is that the function of inner speech varies by developmental stage. In childhood, it may serve play, imagination, and self-entertainment (as in participant K10's statement). In adulthood, roles such as self-regulation, emotional processing, and problem-solving become more prominent (Morin, 2005). In late adolescence, identity negotiation and social comparison appear to shape the content of inner speech (Ghavamian Kivi et al., 2023).

Thus, the developmental-process theme indicates that inner speech evolves dynamically rather than remaining static, reflecting shifts in emotional maturity, life experience, and social context. These results support prior theoretical and empirical research (Alderson-Day & Fernyhough, 2015; Morin, 2009), which conceptualises inner speech as an early-emerging but continuously transforming cognitive tool.

These qualitative accounts help explain the quantitative finding that inner speech is not uniformly adaptive across individuals, as its tone and function appear to be shaped by developmental experiences and socialisation processes. In particular, the emergence of more critical inner speech during adolescence may shed light on its negative association with psychological well-being observed in the quantitative analyses.

Discussion on the Theme of the Emergence of the Need for Inner Speech

Participants' reflections on the "Emergence of the Need for Inner Speech" indicate that inner speech is activated for both emotional and cognitive regulation purposes. The codes that emerged under this theme (such as "overthinking," "balancing emotional state," and "changing perspective") are consistent with previous literature suggesting that inner speech functions as a strategy for coping with stress, making sense of ambiguous situations, and regulating emotions (Alderson-Day & Fernyhough, 2015; Morin, 2005).

Participants stated that the need for inner speech increases particularly when conversations remain unresolved or thoughts remain unexpressed. This finding supports Chauhan and Rai (2013), who argued that negative inner speech disrupting empathy and social interaction may lead individuals to experience a sense of emotional incompleteness. Similarly, Dyson-Horton (2021) emphasised that critical or judgmental inner speech may cause unsaid words and emotions to accumulate internally and turn into "inner conflict."

Participants also reported that their inner speech intensified during stressful periods and when alone, suggesting that inner speech operates as a self-regulation mechanism (Dolcos & Albarracin, 2014). There is also evidence that problem-focused inner speech contributes to meaning-making and the evaluation of possible solutions (Carruthers, 2018). Participants' emphasis on engaging in inner speech particularly when alone suggests that verbal-auditory thinking becomes more prominent when there is no opportunity for social expression (Morin et al., 2011).

The code "balancing emotional state" recalls studies suggesting that individuals experiencing emotional regulation difficulties frequently turn to inner speech as a coping strategy (Ghavamian Kivi et al., 2023). For instance, the reflective practices that participants described as "internal reasoning" or "filtering the situation through one's own perspective" are consistent with Morin's (2005) emphasis on the contribution of inner speech to self-awareness and self-monitoring. In this respect, inner speech appears to serve as a kind of "internal counselling process" that allows individuals to recognise their emotions and soothe themselves (Carruthers, 2018).

Participants also reported using inner speech to gain different perspectives during conflicts or difficulties and to rehearse possible future dialogues. This finding parallels Alderson-Day and Fernyhough (2015), who suggest that inner speech may support theory of mind and empathy processes. At the same time, such rehearsal-based inner dialogue is compatible with Dolcos and Albarracin (2014), who demonstrated that self-motivating inner speech may facilitate behavioural regulation during stress.

Some participants described inner speech as a form of "therapy" or "internal balancing tool," a view that echoes arguments emphasising the constructive influence of inner speech on emotional regulation, problem solving and self-concept (Moffitt, 2022; Morin, 2009). However, several participants also noted that face-to-face interaction with "real people" can be more effective or preferable. This resonates with Tullett and Inzlicht (2010), who highlighted the importance of reciprocal social engagement. Thus, although inner speech can be functional, direct social communication or support may sometimes offer a more satisfying resolution (Morin, 2010).

In summary, participants reported experiencing a need for inner speech for multiple reasons, including emotional struggle, stressful events, unexpressed thoughts, and the desire to gain new perspectives. This constitutes an important qualitative finding supporting the adaptive function of inner speech (Alderson-Day & Fernyhough, 2015). Therefore, it may be concluded that inner speech plays a critical role in emotional regulation, cognitive planning and the construction of self-identity, by enabling individuals to maintain an internal dialogue with themselves (Carruthers, 2018; Morin, 2005).

This theme provides contextual insight into the quantitative associations between inner speech, emotion regulation difficulties, and mindfulness. The reported increase in inner speech during emotionally demanding or unresolved situations helps explain why critical inner speech was positively associated with emotion regulation difficulties in the quantitative findings.

Discussion on the Theme of the Negative Effects of Inner Speech

Under the theme of "Negative Effects of Inner Speech," participants predominantly referred to factors such as increased anxiety and reliving emotions. This finding is consistent with the view reported in studies such as Dyson-Horton (2021) and Chauhan and Rai (2013), which suggest that destructive or critical inner speech tends to reinforce anxiety and negative affective states. In particular, the increase in anxiety supports findings indicating that inner speech processes in individuals with a tendency toward rumination may repeatedly reactivate existing thoughts and emotions, thereby elevating stress levels (Ghavamian Kivi et al., 2023).

Participants' reports that negative experiences or emotions were mentally relived indicate that inner speech may sometimes lead to emotional re-evocation rather than emotional regulation (Dolcos & Albarracin, 2014). In such cases, repeatedly revisiting past negative memories or emotions such as anger or sadness may contribute to the persistence of negative mood states. Forms of inner speech reflecting self-judgement or being influenced by negative thoughts are also consistent with Dyson-Horton's (2021) conclusion that a critical inner voice may be damaging to self-perception and mental health.

The expression of more concrete complaints such as difficulty focusing on the present moment and headaches also aligns with Morin's (2009) explanation that inner speech occupies a substantial part of the stream of consciousness and may create cognitive overload. Persistent and uncontrollable inner dialogues are thought to increase mental resource consumption and trigger bodily stress reactions (e.g., intense head tension or stress-related strain). In addition, statements referring to "being misled by inner speech" support Carruthers' (2018) view that inner speech may provide cognitive guidance but may also facilitate detachment from reality, giving rise to overly optimistic or overly negative interpretations.

Taken together, participants' accounts indicate that inner speech does not always function beneficially; rather, when it takes the form of negative, critical or ruminative content, it may increase both emotional distress and physical discomfort. These findings support the theoretical framework of Alderson-Day and Fernyhough (2015), which conceptualises inner speech as a multidimensional psychological process. Therefore, understanding the content and frequency of inner speech, and the ways in which it contributes to maladaptive emotion-regulation patterns, emerges as an important focal point for both psychological well-being and therapeutic interventions.

The qualitative descriptions of anxiety, rumination, and emotional reactivation offer an experiential explanation for the quantitative finding that critical inner speech is negatively associated with psychological well-being. These narratives illustrate how self-critical inner dialogue becomes particularly detrimental when it takes a repetitive and emotionally charged form.

Discussion on the Theme of the Positive Effects of Inner Speech

The participants' emphasis on the Positive Effects of Inner Speech is consistent with numerous studies in the literature that highlight the motivational and well-being-enhancing functions of inner speech (Morin, 2009; Alderson-Day & Fernyhough, 2015). In particular, the participants' references to the codes expressing emotions and self-motivation indicate that individuals may become more aware of their thoughts and emotions through inner speech, restructure them within a positive framework, and thereby strengthen their inner psychological resources.

For example, the code "expressing emotions" echoes the findings of Chauhan and Rai (2013), which emphasise the importance of inner speech in empathy and social interaction. Inner speech may provide individuals with the self-awareness necessary both to make sense of their own emotions and to establish healthy relationships with the external world. Similarly, Morin (2005) notes that the "verbalisation" function of inner speech contributes to a better understanding of internal experiences and may therefore strengthen emotional regulation.

The code "self-motivation" supports research suggesting that positive self-talk can influence self-efficacy beliefs and behavioural regulation skills (Uhrich, 2016). The participants' statements regarding the internal repetition of motivational phrases are also compatible with the findings of Dolcos and Albarracin (2014), which show that the use of the second-person pronoun ("you") can enhance self-regulation.

In addition, Moffitt (2022) demonstrated that positive inner communication (self-talk) particularly supports self-motivation and developmental processes in young individuals. The participants' "think well, live well" perspective is also aligned with Verhaeghen and Mirabito's (2021) emphasis that consciously enriching inner speech with positive content may support psychological well-being.

Participants also reported that positive inner speech functions as a "rehearsal" or "cognitive guide" in problem-solving and communication processes. These findings support the arguments of Carruthers (2018) and Morin (2009) that inner speech may act as a constructive resource in decision-making, planning, and regulating social relationships. Indeed, the participants' experiences coded under "producing solutions" and "establishing effective communication" suggest that inner speech facilitates mental rehearsal of potential scenarios, thereby strengthening self-confidence and expressive capacity (Alderson-Day & Fernyhough, 2015).

In conclusion, within the theme of Positive Effects of Inner Speech, participants' statements regarding motivation, expressing emotions, generating solutions, and the "think well, live well" approach largely parallel empirical findings concerning the contribution of inner speech to emotional and cognitive regulation processes. These findings indicate that a healthy internal dialogue may enhance self-awareness, support coping with stressful situations, facilitate more effective social interactions, and ultimately provide individuals with a psychological framework that makes everyday life more manageable (Dolcos & Albarracin, 2014; Morin, 2005).

This theme clarifies the quantitative results showing positive associations between supportive inner speech, self-reinforcement, and psychological well-being. Participants' accounts demonstrate that supportive inner dialogue becomes functional particularly in contexts requiring motivation, emotional clarification, and interpersonal preparation.

Recommendations

The findings of the present study indicate that inner speech develops across the lifespan and is shaped by developmental, cultural and psychosocial factors. Future research may therefore benefit from employing longitudinal designs to examine how inner speech evolves from childhood to late adulthood, with particular attention to transitional periods such as late adolescence to young adulthood. It is also recommended that cross-cultural and socio-demographically diverse samples be included, as inner speech frequency, content and perceived effects may vary across linguistic, cultural and socioeconomic contexts. In addition, experience-sampling and neuroimaging methods may be used to capture inner speech as it occurs in real time and to explore its neural correlates. Further research in clinical populations (e.g., depression, anxiety, PTSD) is also suggested, in order to clarify how inner speech relates to symptom severity and to inform therapeutic interventions. Finally, there is a need for quantitative evaluations of psycho-educational and therapeutic programs aimed at enhancing positive and awareness-based inner speech strategies.

Practitioners are encouraged to support clients in recognising and restructuring negative or critical inner speech through techniques such as cognitive restructuring, self-compassion practices and the deliberate use of second-person self-talk. Awareness-based exercises may assist individuals in monitoring their inner speech patterns and identifying unhelpful thought cycles at an early stage. Preventive and developmental work may also be carried out with children, adolescents, parents, teachers and employees, with the aim of strengthening motivational and self-supportive inner dialogue. In organisational settings, training modules and digital tools can be developed to increase awareness of inner speech under stress and to promote adaptive self-talk as a buffer against burnout. Group work and psychoeducation, particularly with vulnerable or high-need populations, may further reinforce resilience and hope by encouraging constructive inner dialogue.

Limitations

This study was conducted with voluntary adult participants drawn from a single geographical region, which may limit the generalisability of the findings to broader and more diverse populations. Both the quantitative measures and qualitative interviews relied on self-report, making the data potentially susceptible to recall bias, social desirability effects, and difficulties in articulating internal experiences. In addition, the cross-sectional design of the study precludes causal interpretations regarding the relationships between inner speech, psychological well-being, mindfulness, self-control, and emotion regulation difficulties. The absence of clinical samples and the limited representation of different developmental stages further restrict the applicability of the findings to clinical or

lifespan-diverse populations. Although the qualitative phase yielded rich and in-depth data, the relatively small interview sample and the interpretive nature of qualitative analysis suggest that these findings should be understood as providing contextual insight rather than broad generalisation.

A further limitation concerns the complexity of the analytical model. The inclusion of multiple, conceptually related constructs-specifically inner speech and self-talk-inevitably increased model complexity and may have posed challenges for interpretability. This complexity, however, was introduced intentionally to capture the multidimensional structure of internal verbal processes and to differentiate between cognitively oriented inner dialogue and more behaviorally and regulatory oriented verbal processes. From this perspective, the model should be understood as an integrative rather than a parsimonious framework. Nevertheless, future research may benefit from testing more simplified models that focus primarily on the qualitative tone of inner speech, while positioning self-talk dimensions as complementary or contextual mechanisms. Accordingly, model complexity is acknowledged both as a deliberate theoretical choice and as a methodological limitation of the present study.

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