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The Illusion of Transparency and Its Relationship to Certain Variables Among University Students

Hajar Aqeel Kadhim¹, Sanaa Issa Al-Daghestani²

Abstract

The Illusion of Transparency is a cognitive bias that leads individuals to overestimate the extent to which their thoughts and emotions are apparent to others. It has a strong impact on individuals in a wide range of situations. People suffer from this illusion due to a natural egocentric bias, which causes them to rely heavily on their own perspective when attempting to consider the perspectives of others. This leads to overestimating how much others notice their emotional state, especially when they feel anxious about speaking in public. The current study aimed to measure the level of the illusion of transparency among university students, and to examine the significance of the differences according to gender (male – female), specialization (scientific – humanistic), and academic year (second – fourth). The study sample consisted of 400 students selected using the stratified random sampling method with equal distribution. After collecting and statistically analyzing the data, the results showed the following: University students demonstrated a high level of the illusion of transparency (16.5), indicating that they tend to overestimate the visibility of their feelings and emotions to others. There was a statistically significant difference in the illusion of transparency based on gender in favor of females, and based on specialization in favor of the humanities. However, there was no statistically significant difference based on academic year.

Keywords: Illusion of Transparency, Objective Self-Awareness Theory, Simulation Theory.

Introduction

The Illusion of Transparency is a cognitive bias that causes individuals to overestimate how clearly their thoughts and emotions are perceived by others. This is a maladaptive bias that arises from individuals' phenomenological experiences, leading them to believe that others can detect their internal states during social behavior an incorrect assumption. The illusion is primarily reinforced by egocentric bias (Gilovich et al., 1998, p. 333).

The illusion relates to individuals' perceptions of how others view them, often in a biased, selfcentered manner. People believe that others see them as they see themselves, meaning that selfperception affects their estimation of how others perceive them. This sense of transparency appears to be widespread; individuals tend to believe that various personal attributes are evident in different situations. Specifically, people often feel like an open book when it comes to their traits, values, and goals (Cameron & Vorauer, 2008, p. 1094).

The illusion of transparency also involves self-focused attention and self-construction, where internal and external processes contribute to individuals constructing themselves as social beings through social interactions. However, it is difficult to determine how these processes contribute to a distorted self-image or how they deepen our understanding of these internal and external

² University of Baghdad / College of Arts, Department of Psychology, Email: <u>sanaa.rasheed@coart.uobaghdad.edu.iq</u>



¹ University of Baghdad / College of Arts, Department of Psychology, Email: hajeer.Oqil1804b@coart.uobaghdad.edu.iq

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processes in forming negative self-perceptions. The concept of the illusion of transparency, developed within social psychology, explains the feeling that the self is transparent and visible to others. It is also a transitional state accompanied by discomfort and nervousness at times (Gilovich et al., 2000, p. 211).

The illusion of transparency shares similarities with several other biases, such as egocentric bias, hindsight bias, self-as-target bias, spotlight effect, and the curse of knowledge.

Research Objectives

1. To measure the level of the illusion of transparency among university students.

2. To identify the significance of differences in the illusion of transparency among university students according to the following variables:

• Gender (male – female)

• Specialization (scientific – humanistic)

• Academic year (second – fourth)

Methodology

The methodology of the current study can be briefly summarized as follows: The correlational method was applied to investigate the relationships between two or more variables and express them quantitatively through correlation coefficients. The sample was chosen using a stratified random sampling method, consisting of 400 university students. The study adopted Mandelbaum's (2014) Illusion of Transparency Scale, which is based on the Objective Self-Awareness Theory and includes 22 items. The illusion of transparency is defined as individuals' tendency to overestimate how much others can perceive their internal states, believing these states to be more observable than they actually are. It is also defined as ineffective communication in performance evaluations, where individuals unintentionally overestimate how well others understand their feedback, especially when it's negative (Schaerer et al., 2018, p. 172).

Theories Explaining the Illusion of Transparency:

Objective Self-Awareness Theory by Duval & Wicklund (1972):

Duval and Wicklund (1972) proposed the Objective Self-Awareness Theory, which assumes that self-awareness operates like a feedback system. The theory has inspired extensive research and raised essential issues in social psychology, such as emotion, attribution, cognitive consistency, comparison to self-standards, and uniqueness. Self-focused attention is considered key to a range of clinical and health phenomena. The hypothesis of this theory focuses on self-feelings, based on the core assumption that an individual stabilizes their behavior when focusing on themselves as the object (Duval & Wicklund, 1972, p. 234).

The theory suggests that individuals change their behavior through the following processes:

- 1. Focusing attention on the self
- 2. Comparing one's actions with prevailing standards
- 3. Experiencing negative affect when one's actions do not align with those standards

The theory posits that focusing on the self triggers an automatic comparison with self-standards.

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According to Duval and Wicklund (1972), awareness has a dual nature: it can be directed inward (toward the self) or outward (toward the environment). When awareness is directed toward aspects of the self, it is termed "Objective Self-Awareness," meaning the self is the central focus. When directed outward, it is referred to as "Self-Consciousness," where the self's attention is externally oriented. Objective self-awareness is marked by introspection and self-evaluation, contrasting sharply with an externally active self-state. Recent developments in the theory have expanded it to include concepts such as Social Self-Awareness in modern contexts. Additionally, recent studies focus on how self-awareness during social interactions and media communication affects mental health and human behavior (Silvia & Duval, 2001, p. 231).

Simulation Theory by Gordon & Goldman (1986):

Also referred to as "Empathy Theory," Simulation Theory was first developed by Robert Gordon (1986), who proposed that we can predict others' behavior. The theory suggests that people use psychological mechanisms, such as reading or imitating others' intentions, to understand them. Proponents often cite examples of egocentric biases, where one's mental state beliefs or desires affects how they interpret others. One supporting concept is the "Curse of Knowledge," where a participant's knowledge influences their judgment about others, even when they are aware of the knowledge gap (Koul, 2017, p. 2).

Within the framework of Simulation Theory, the illusion of transparency was studied, showing a bias that affects all age groups. Participants used their own perspectives to infer what others might know, yet during transparency illusion tasks, they failed to sufficiently detach from their own point of view, especially when focusing on lying or public speaking. Participants made judgments about how others might interpret them such as detecting lies or noticing nervousness. Emotional tasks encouraged inward focus, which hindered their ability to shift perspective. The theory suggests that varying levels of internal focus affect participants' accuracy in simulating others' viewpoints, especially when they are naturally absorbed in their internal thoughts (Rai et al., 2014, p. 18).

Research Tool:

Each topic requires a suitable research tool. To achieve the current study's goals, the researcher reviewed relevant literature and previous studies on the illusion of transparency and selected Mandelbaum's (2014) scale, based on Duval and Wicklund's (1972) Objective Self-Awareness Theory. The scale originally included 22 items. After expert review, one item was removed, and the researcher applied the scale to the sample. Statistical analysis was conducted using the internal consistency method, determining each item's correlation with the total score. All items were statistically significant, exceeding the Pearson correlation table value at a significance level of (0.05) and 398 degrees of freedom. Therefore, Pearson's correlation coefficient was used to calculate the relationship between each item and the total score across 400 responses. The critical value for the correlation coefficient was (0.098) at the (0.05) level with 398 degrees of freedom.

Item Analysis:

The goal of item analysis is to determine the discriminative power of each item, retaining those that distinguish effectively between levels of the illusion of transparency and removing ineffective ones. This process ensures the scale's efficiency in revealing individual differences.

Two methods were used:

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Extremist Groups Method

The Extremist Groups Method, cutoff balancing, and internal consistency (item-total correlation) are suitable for item analysis. The researcher applied both methods, along with confirmatory factor validity for the scale.

Steps followed:

- The scale was applied to a random sample of 400 university students.
- Each questionnaire was scored and total scores were determined.

• Scores were arranged in descending order, using 27% of the highest and lowest scores. This percentage ensures the largest possible sample size and maximum variance between groups. According to Kelly, each group should consist of 27% of the sample size for optimal discrimination. Thus, each group included 108 forms, totaling 216 forms analyzed for item discrimination.

An independent-sample t-test was used to calculate each item's discriminative power. All items were found to be statistically significant when compared with the critical t-value of (1.96) at a (0.05) level and 214 degrees of freedom. Table (1) illustrates this.

Item Number in	Group	Mean	Standard	Calculated t-	Significance
the Scale			Deviation	value	
1	High	3.60	0.68	4.78	Significant
	Low	3.08	0.90		
2	High	3.63	0.65	2.15	Significant
	Low	3.43	0.74		
3	High	2.99	0.89	6.26	Significant
	Low	2.23	0.89		
4	High	3.28	0.81	12.02	Significant
	Low	1.94	0.83		
5	High	3.40	0.86	10.38	Significant
	Low	2.09	0.98		
6	High	3.33	0.92	8.07	Significant
	Low	2.27	1.02		
7	High	2.29	1.01	3.96	Significant
	Low	1.79	0.84		
8	High	2.68	1.03	9.77	Significant
	Low	1.48	0.74		
9	High	3.47	0.73	3.55	Significant
	Low	3.11	0.76		
10	High	2.93	1.12	3.48	Significant
	Low	2.39	1.16		
11	High	3.37	0.82	2.23	Significant
	Low	3.11	0.89		
12	High	3.19	0.97	9.05	Significant
	Low	2.04	0.90		_
13	High	2.96	0.93	10.95	Significant

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	Low	1.66	0.82		
14	High	3.32	0.86	10.97	Significant
	Low	1.99	0.92		
15	High	3.44	0.81	8.07	Significant
	Low	2.39	1.08		
16	High	3.47	0.70	11.98	Significant
	Low	2.16	0.90		
17	High	2.75	1.06	10.09	Significant
	Low	1.50	0.73		
18	High	3.54	0.73	4.44	Significant
	Low	3.04	0.92		
19	High	3.31	0.82	8.82	Significant
	Low	2.19	1.05		
20	High	3.49	0.79	3.12	Significant
	Low	3.13	0.90		
21	High	3.10	0.97	9.49	Significant
	Low	1.91	0.88		

Table (1)

Discriminative Power of the Illusion of Transparency Scale Using the Extreme Groups Method

Construct Validity Indicators

One of the indicators of construct validity is the ability of items to differentiate between individuals, particularly when using the extreme groups method. This refers to the extent to which a scale can be said to measure a specific trait or characteristic. This type of validity is established through several indicators, one of which is the confirmation of a hypothesis derived from the theoretical framework.

In the current study, construct validity for the Illusion of Transparency Scale was obtained using both the extreme groups method and internal consistency, which are considered key indicators of construct validity. Confirmatory factor analysis (CFA) was also used, as explained below:

Relationship Between Item Scores and the Total Scale Score (Internal Consistency Methods)

The correlation of each item with the total score of the scale is an indicator of the validity and homogeneity of the items in measuring the behavioral phenomenon. This method reflects the degree to which test items align in direction and measurement path. It also represents the mutual relationship among the items of the scale, meaning the correlation between performance on each item and performance on the scale as a whole.

The total score reflects the actual construct being measured. In this regard, Anastasi (1976) points out that the total score of the scale is the best internal criterion when no external criterion is available.

To achieve this, the same data used in the extreme groups method was employed, using Pearson correlation coefficient to calculate the relationship between each item and the total score across all forms (400 in total). The significance of the correlations was tested using the Statistical Package for the Social Sciences (SPSS), and all correlations were statistically significant, as

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The tabulated value of Pearson's correlation coefficient at a significance level of (0.05) and degrees of freedom (398) is (0.098). Thus, Pearson's correlation was used to calculate the relationship between each item on the Illusion of Transparency Scale and the total score of the 400 forms representing the entire sample. The comparison of these values with the critical value is shown in **Table (2)**:

Ite	Correlat	Significa	Ite	Correlat	Significa	Ite	Correlat	Significa
m	ion	nce	m	ion	nce	m	ion	nce
	Coeffici			Coeffici			Coeffici	
	ent			ent			ent	
1	0.22	Significa	8	0.47	Significa	15	0.41	Significa
		nt			nt			nt
2	0.18	Significa	9	0.11	Significa	16	0.53	Significa
		nt			nt			nt
3	0.31	Significa	10	0.11	Significa	17	0.50	Significa
		nt			nt			nt
4	0.50	Significa	11	0.16	Significa	18	0.22	Significa
		nt			nt			nt
5	0.45	Significa	12	0.46	Significa	19	0.42	Significa
		nt			nt			nt
6	0.41	Significa	13	0.54	Significa	20	0.11	Significa
		nt			nt			nt
7	0.24	Significa	14	0.49	Significa	21	0.49	Significa
		nt			nt			nt

Table (2)

Validity of the Illusion of Transparency Scale Items Using the Item-Total Correlation Method

Confirmatory Factor Analysis for the Illusion of Transparency Scale

Confirmatory Factor Analysis (CFA) aims to test the degree of fit between the covariance matrix of the variables included in the analysis and the matrix derived from the hypothesized model, which defines specific relationships among these variables (Maccallum & Austin, 2000, p. 201).

After conducting the CFA for the Illusion of Transparency Scale, it was found that all items had statistically significant loadings on the scale. This is because all standardized regression weights were statistically significant based on the t-values, which exceeded the critical t-value (1.96) at the 0.05 significance level.

Standardized regression weights refer to the estimated significance of the relationship between each item and the overall scale. For the results to be accepted, the critical ratios must exceed 1.96. The results confirmed that the Illusion of Transparency Scale measures a single general factor.

Reliability Coefficient

The reliability of the Illusion of Transparency Scale was calculated using two methods: Cronbach's Alpha and Test-Retest. The results are shown in Table (3):

No.	Method	Reliability Coefficient
1	Test-Retest	0.74
2	Cronbach's Alpha	0.75

Table	(3)
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Reliability Coefficients of the Illusion of Transparency Scale Using Test-Retest and Cronbach's Alpha Methods

Research Findings:

Objective (1): Measuring the Level of the Illusion of Transparency Among University Students

To achieve this objective, the researcher administered the Illusion of Transparency Scale to the study sample, consisting of 400 participants. To measure the level of the illusion of transparency among university students, the raw scores obtained on the scale were converted into T-scores. The results showed that the percentage of individuals with a high level of the illusion of transparency (16.5%) was lower than those with a low level (18.5%).

It is important to note that a T-score of 60 or above indicates a value one standard deviation above the sample mean, while a T-score of 40 or below indicates a value one standard deviation below the mean.

The findings indicate that a portion of the research sample experiences the illusion of transparency at varying levels, with 16.5% demonstrating a high level. The researcher concluded that the illusion of transparency may have a significant impact on students' behavior and self-perceptions. One potential consequence is heightened self-consciousness in social or performance-oriented situations, as students may believe that their internal emotions are more apparent to others than they actually are. This belief may lead to increased anxiety and self-doubt.

This belief is often inaccurate intense emotions and internal experiences are subjective and cannot be easily observed by others. However, individuals tend to overestimate how clearly their thoughts and feelings are perceived by others. Self-awareness can influence the development and prevalence of the illusion of transparency, with individuals varying in their perceived transparency based on levels of self-awareness.

Objective Self-Awareness Theory posits that when individuals focus on themselves, they tend to direct their attention inward to their thoughts, feelings, personal history, and other psychological aspects. Specifically, individuals may feel like "open books" regarding their traits and values. One simple way to reduce the impact of the illusion of transparency is to raise awareness of the bias. This approach is especially effective in situations where a person feels nervous and needs to boost confidence. Taking a moment to relax and recognize that the illusion of transparency likely exaggerates their anxiety can help reduce it. Additionally, the effect can be mitigated through **debiasing**, a process aimed at reducing the influence of cognitive biases to help people think more rationally and accurately.

Objective (2): Identifying the Significance of Differences in the Illusion of Transparency Among University Students According to Gender, Major, and Academic Stage

a. Significance of the Difference According to Gender

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To address this objective, an independent samples t-test was used to examine differences in the illusion of transparency according to gender. The analysis showed a statistically significant difference in favor of females, as the calculated t-value exceeded the critical value of 1.96 at the 0.05 significance level with 398 degrees of freedom.

The researcher interprets this result as indicating that the illusion may vary between males and females due to differences in emotional expression and processing. Females tend to be more emotionally expressive than males and process negative facial expressions in different brain regions. Thus, the illusion of transparency may be more pronounced among females, who believe they are expressing their emotions more than observers actually perceive. As a woman, the researcher suggests that female behavior is more scrutinized by society compared to males, which may contribute to higher perceived transparency due to socialization and differences in brain hemispheric function.

b. Significance of the Difference According to Academic Major

An independent samples t-test was also conducted to assess differences in the illusion of transparency by academic major. The results indicated a statistically significant difference in favor of humanities students, as the calculated t-value exceeded the critical value of 1.96 at the 0.05 significance level with 398 degrees of freedom.

The researcher explains that humanities students are often required to engage in discussions, analyze ideas, and communicate effectively. These expectations may increase pressure during public speaking or discussions, as students may fear appearing less competent. Moreover, humanities subjects often address controversial philosophical and social issues, making students more sensitive to being misunderstood and, consequently, more prone to the illusion of transparency.

c. Significance of the Difference According to Academic Stage

An independent samples t-test was used to investigate whether there are differences in the illusion of transparency based on academic stage. The results showed **no statistically significant difference**, as the calculated t-value was less than the critical value of 1.96 at the 0.05 level with 398 degrees of freedom.

The researcher interprets this non-significant result as potentially reflecting the transitional phase that all students regardless of year experience as they move from a structured school environment to a more independent university setting. This stage demands the development of new social skills, such as interacting with professors and peers. As shown in the first objective, students do experience the illusion of transparency, likely due to inexperience in managing academic and social stressors. Despite their internal anxiety, these emotions may not be externally visible. Furthermore, students in the second and fourth years often face new challenges such as presentations, oral exams, seminars, and thesis defenses. In such situations, students with a strong illusion of transparency may mistakenly believe their emotions and stress are highly visible to others.

Recommendations:

The study recommends activating guidance and counseling committees through organizing training sessions targeted at students who experience the illusion of transparency. These sessions should focus on reinforcing the idea that the audience does not notice nervousness to the extent the individual imagines, and should aim to instill a stronger sense of self-confidence.

Additionally, it is recommended to organize student conferences that involve students actively, which could serve as a form of cognitive-behavioral intervention, particularly for those who suffer from anxiety when speaking in classrooms. Moreover, awareness of the illusion of transparency should be promoted through programs focused on public speaking training and active participation in student activities. Encouraging students to engage in group-based student activities can also contribute positively to addressing this issue.

Suggestions:

Future research is encouraged to explore the illusion of transparency in professional environments such as workplaces, meetings, and interviews, in order to support employees in expressing their opinions more confidently. It is also suggested to conduct correlational studies to investigate the relationship between the illusion of transparency and other psychological and social variables, including stereotype bias, the spotlight effect, misunderstanding, self-awareness, self-esteem, social perception, and other related constructs.

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