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Relationship between Factors Directing Interpersonal Interaction: Mediation Role of Anxiety Sensitivity

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ABSTRACT

The objective of this study was to determine the mediation role of anxiety sensitivity in the relationship between interpersonal competence and phubbing. The study was an observational cross-sectional study based on a survey with the aim of determining the mediation role of anxiety sensitivity in the relationship between interpersonal competence and phubbing. In this context, data were collected from a convenience sample of 321 participants using the Phubbing Scale, Anxiety Sensitivity Index-3, and Interpersonal Competence Scale (ICC)-Short Form. Data were analyzed using regression-based mediation analysis and Pearson's correlation coefficient. The analysis demonstrated that phubbing was positively related to anxiety sensitivity and negatively related to interpersonal competence. Furthermore, the mediation analysis showed that anxiety sensitivity had a mediating effect on the relationship between interpersonal competence and phubbing. Furthermore, the bootstrap (10000) method was used to determine whether the mediation analysis was significant. These findings suggest that anxiety sensitivity partly explains the inverse relationship between interpersonal competence and phubbing. The research results support previous research results and have different findings from previous research. The findings of this research indicate that anxiety sensitivity is more effective than interpersonal competence in phubbing.

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Keywords:⁶

Interpersonal competence, phubbing, anxiety sensitivity, mediation model

INTRODUCTION

From the past to the present, people communicate with others around them and have social relations to maintain their lives. Being in interpersonal relationships and maintaining these relationships are among the basic needs and motivational processes (Baumeister & Leary, 1995). Interpersonal relationships are intense and essential in adulthood, especially considering the processes related to university, business life, spouse selection, and creating a unique environment. In this period, individuals experience the processes of being able to exist in social life, living independently, establishing close relationships, fulfilling their family responsibilities, and following the developments in business life (Şahin & Gizir, 2013). These processes are shaped by communication and social relations with people. Spitzberg and Cubach (1989) revealed that competence plays a vital role in interpersonal relations and communication. There are two different approaches to the concept of competence, namely social understanding and special skills (Waters & Sroufe, 1983). In social understanding, competence functions as regulating relationships, creating opportunities, using opportunities that can change according to the demands of society, and having adaptive responses to society. Wiemann (1977) examined the concept of competence in terms of effective interpersonal relations and communication with people. In this context, interpersonal competence, a concept that is expressed as an essential skill in social relations and is still being defined (Waters & Sroufe, 1983), is discussed in this study.

Interpersonal competence is the ability to have appropriate behaviors and skills to initiate and maintain a relationship (Taborsky & Oliveira, 2012). Buhrmester et al. (1988) expressed interpersonal competence in five primary areas: initiating social relations, self-disclosure, expressing uneasiness about

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others' behavior, providing emotional support, and resolving interpersonal conflicts. Interpersonal competence allows individuals to intervene in the situation in their communication, react appropriately, and choose their answers (Waters & Sroufe, 1983). Empathic communication, self-expression, acceptance, ownership, self-disclosure, and flexibility in behavior are basic interpersonal competence skills (Bochner & Kelly, 1974). Wiemann (1977) explained that interpersonal competence includes interaction management, empathy, establishing romantic relationships and providing support, flexibility in behavior, and being comfortable in social environments. Interpersonal competence requires effective role-playing and communication in social interactions (Rose-Krasnor, 1997). Buhrmester et al. (1988) stated that interpersonal competence has different dimensions, such as initiating a relationship, expressing ideas clearly, and performing behavioral skills in nonverbal communication. It is also expressed as the effective use of verbal and physical skills in communication (Bochner & Kelly, 1974). The literature examines interpersonal competence and social media addiction (Savcı & Aysan, 2018), internet addiction (Batmaz et al., 2020; Kaya et al., 2023; Traş et al., 2020), social media attitudes (Arıcan Köle, 2019), and romantic relationships (Taş, 2017).

In addition to the fact that the communication skills of individuals and the way they use their interpersonal competencies differ, their life orientations and ways of communicating have also begun to differ with the changes in technology (Köle, 2019). In the past, communication, mostly face-to-face with verbal and bodily messages, has expanded with the development of technology. Most of the world's population is shifting communication elements from face-to-face to electronic (Gjylbegaj & Jararaa, 2018). Especially with the introduction of smartphones, communication has become easier and faster. In addition to facilitating human life and communicative processes, the use of telephones has become a problem area with the increase in innovations in telephones and the frequency of use by individuals as the process progresses (Parmaksız, 2020). This study investigates the relationship between phubbing, the abuse of smartphones, the dimension of communication, and interpersonal competence.

This problem area conceptualized as smartphone addiction is expressed as "phubbing," which combines phone use and snubbing (Chotpitayasunondh & Douglas, 2016). Phubbing is defined as paying attention to the phone rather than focusing on the other person and communicating with him/her in social environments (Latifa et al., 2019). In the literature, phubbing concepts include internet addiction, game addiction, social media addiction, and nomophobia (Yam & İlhan, 2020). This is called phubbing when individuals play games on the phone, spend time on social media, or constantly look at the screen to stay away from their phones even though they do not have a job (Ballı, 2020).

What is emphasized by the concept of phubbing is the interruption of social relations because of the time spent on the phone and the restlessness of the people on the other hand (Abramova et al., 2017). Individuals acquire a virtual personality with phubbing, experience uncertainty about their identities, tend to alienate themselves, and their family relationships are negatively affected (Çetinkaya Büyükbodur & Uğurlu, 2021). It can be said that with the increase in the time spent on the phone, the interpersonal relationships of individuals also change. Mert and zdemir (2018) found that individuals become lonely as their phone addiction increases. Although individuals want to communicate most of the time, they may not be able to stop looking at their phones and want to spend time with them all the time. In a study, participants stated that they found face-to-face communication more critical. Still, they could not stop themselves from looking at their phones and social media even when they were in face-to-face communication (Yıldırım & Ünalan, 2020). Youarti and Hidayah (2018) stated that young people are addicted to smartphones by acting indifferently toward those around them. These studies show that phubbing behavior has become important in interpersonal relationships. The literature shows that phone addiction is related to interpersonal relationships (Dwyer et al., 2018; Karadağ et al., 2016), romantic relationships (Çetinkaya Büyükbodur & Uğurlu, 2021; Roberts & David, 2016), self-esteem (Batmaz et al., 2021; Doğrusever et al., 2022; Samaha & Hawi, 2016; Tohumcu et al., 2019; Yıldırım et al., 2022), stress (Augner & Hacker, 2012; Roberts & David, 2016; Thomee et al., 2011), depression (McDaniel & Coyne, 2014;

Roberts & David, 2016; Thomee et al., 2011), and loneliness (Batmaz & Çelik, 2021; Mert et al., 2011; Özdemir, 2018; Tohumcu et al., 2019).

Mediating Role of Anxiety Sensitivity

Anxiety sensitivity is an extreme fear of anxiety-related sensations and symptoms that are believed to have harmful physical or social consequences (Reiss & McNally, 1985). The processes called anxiety expectancy and anxiety sensitivity play a role in people's motivation to avoid a fearful event or situation. Anxiety expectation is the expectation that a person will experience anxiety or fear in a particular situation. However, anxiety sensitivity has been suggested to be a persistent basic fear and predisposition to various anxiety disorders (Reiss & McNally, 1985). Anxiety sensitivity is an important cognitive process that provides cognitive structure and symptoms to the origin and symptoms of anxiety disorders (Mantar et al., 2011). Individuals with high anxiety sensitivity show more anxiety symptoms than other individuals (Ölmez & Ataoğlu, 2019). Anxiety sensitivity arises from genetic predisposition (Stein et al., 1999) and direct and indirect learning (Reiss, 1991; Stewart et al., 2001).

Anxiety sensitivity differs according to how disturbing individuals inherit anxiety and their beliefs about the consequences of their anxiety experience (Starcevic & Berle, 2006). It is thought that people with high anxiety sensitivity tend to misinterpret sudden onset, relatively severe, and unexplained physical anxiety symptoms as dangerous and often avoid them (Mantar et al., 2011). These misinterpretations, also referred to as cognitive distortions, increase an individual's anxiety level and the likelihood of avoidance (Yazıcı-Çelebi & Kaya, 22). This avoidance can be in question for any environment and situation in which individuals may experience anxiety. Particularly in interpersonal relationships, it can be expected that individuals will withdraw themselves for fear of experiencing anxiety and turn to alternative behaviors instead of using their interpersonal competencies. The fact that cognitive distortions are associated with anxiety and negatively affect interpersonal relationships (Kaya et al., 2023) can cause individuals to isolate themselves from society. Individuals experience anxiety sensitivity in physical, cognitive, and social aspects (Taylor et al., 2007). Studies show that anxiety sensitivity plays an important role in the development of social anxiety disorder, generalized anxiety disorder, and alcohol and substance addiction in individuals (Mantar et al., 2011). Based on these findings, it can be said that individuals with anxiety sensitivity move away from social environments and tend toward behaviors that result in addiction. In a study examining the anxiety sensitivity of online game players, it was determined that the anxiety sensitivity levels of in-game addicts were higher than those who were not game addicts (Kahraman & Kaya-Yertutanyol, 2021). In a study of adults, it was determined that anxiety sensitivity plays a mediating role in the relationship between intolerance of uncertainty and fear of COVID-19 and predicts fear of COVID-19 more than intolerance to uncertainty (Çelik et al., 2022). This finding suggests that anxiety sensitivity may remove the individual from social life in order not to transmit the disease. In another study, it was found that anxiety sensitivity predicted self-handicapping positively and significantly. In line with this finding, it can be argued that anxiety sensitivity can lead to phubbing behavior that does not require interpersonal competence by sabotaging the individual's interpersonal competence (Kalyon et al., 2016).

In addition, another study determined that phubbing behavior predicted anxiety (Ergün et al., 2020). This finding showed the relationship between phubbing and anxiety and how they affect each other. However, no research has revealed the mediation role of anxiety sensitivity in the relationship between interpersonal competence and phubbing. Therefore, this study determines the mediating role of anxiety sensitivity in the relationship between these two variables. In this context, three study questions, presented below, are examined in the current research.

1. Is there a relationship among interpersonal competence, anxiety sensitivity, and phubbing?
2. Does Interpersonal Competence Predict Phubbing?
3. Does anxiety sensitivity mediate interpersonal competence and interpersonal relationships?

METHOD

Research Model

This study uses a questionnaire-based correlational research model to determine the mediating role of anxiety sensitivity in the relationship between interpersonal competence and phubbing.

Study Group

Data were collected from 321 individuals aged 18 to 64 years ($M = 33.79$, $SD = 10.08$). Participants under 18 years of age were excluded from the study ($n = 14$). Of the participants, 66.7% were female, 33.3% were male, 61.4% were unmarried, and 38.6% were married. Of the participants, 4% had high school education, 75.7% had undergraduate education, and 20.3% had postgraduate education. Data related to other demographic information, such as ethnicity or socioeconomic status, were not collected. Participants were selected by convenience sampling and completed the questionnaires voluntarily and with informed consent. Ethics committee approval was received for this study from the Ethics Committee (Approval No: 14.04.2022-123988).

Material

Interpersonal Competence Scale (ICS)- Short Form. Developed by Buhrmester, Furman, Wittenberg, and Reis (1988), the Interpersonal Competence Scale measures interpersonal skills in social relationships. The original scale answers were on a 5-point scale of 40 items loaded on five factors. The Turkish Short Form adaptation studies of the scale were carried out by ahin and Gizir (2013) with data obtained from 604 university students. In this study, McDonald's Omega and Cronbach's Alpha values were calculated as .92. In other studies, the internal consistency coefficient of ASI-3 was calculated as .92 (Baytemir, 2016) .86 (Giromini et al., 2016), and .86 (Lijie et al., 2021).

Anxiety Sensitivity Index-3. It is a self-assessment scale comprising three sub-dimensions, physical, social, and cognitive, and measures anxiety sensitivity. It consists of 18 items and provides a five-point Likert-type assessment in the range of "very little, a little, a little, a little, a lot". The arithmetic sum of the scores of each item determines the total score obtained from the scale (Taylor et al., 2007). The Turkish adaptation study did not calculate the cut-off score; high scores indicate increased anxiety sensitivity. In the Turkish validity and reliability study, Cronbach's alpha values were 0.89, 0.82, 0.88 for physical, social, and cognitive sub-dimensions and 0.93 for the whole scale, respectively (Mantar, Yemez & Alkın, 2010). In this study, the Cronbach's alpha value of the scale was calculated as .84. In this study, McDonald's Omega value was .84, and Cronbach's Alpha values were calculated as .85. In other studies, the internal consistency coefficient of ASI-3 was calculated as .95 (Warren et al., 2021), .91 (Hashemi et al., 2020) and .92 (Koç et al., 2021).

Phubbing Scale. Chotpitayasunondh and Douglas (2018) originally developed this scale. The scale contains 15 items and is measured on a seven-point Likert scale (1: Never, 7: Always). The scale consists of four subscales: nomophobia (NP), interpersonal conflict (IC), self-isolation (SI), and problem acknowledgment (PA). The measurement has a good internal reliability (IR) of 0.85–0.92 and convergent validity (Chotpitayasunondh & Douglas, 2018). The adaptation study of the scale was carried out by Ergün et al. (2019). The Turkish measurement version has a good IR of 0.74–0.91 and convergent validity. In this study, McDonald's Omega and Cronbach's Alpha values were calculated as .89. In other studies, the internal consistency coefficient of ASI-3 was calculated as .93 (Bitar et al., 2022), .91 (Aydoğdu & Yaşar, 2022) and .93 (Yam & Kumcağız, 2020).

Data Analyses

Before the regression analysis, the data were tested in terms of regression assumptions, such as linearity, multicollinearity problems, and normality. The results of the examination are presented in Table 1. As seen in Table 1, these findings show that the research data meet the required assumptions for regression analysis. According to Hines and Montgomery (1990); if the absolute value of the correlation coefficient between variables is close to 1, there is multicollinearity between those independent variables. Variance inflation values (VIF); the larger these values are (VIF values ≥ 10), the more multicollinearity between the relevant

independent variables can be mentioned. The larger the VIF value, the greater the multicollinearity between the variables. In general, when the VIF value is greater than 10, the presence of multicollinearity between those variables is accepted. The mediating effect of anxiety sensitivity in the relationship between interpersonal competence and phubbing was tested using the regression-based mediation analysis developed by Hayes (2013).

Table 1. Regression Assumption

Variables	Skewness	Kurtosis	VIFs	CI
Phubbing	.76	.48		1.00
Interpersonal Competence	-.03	-.02	1.08	7.48
Anxiety Sensitivity	1.02	.92	1.08	18.31

CI= Confidence Interval

FINDINGS

Relationships between Study Variables

Descriptive statistics and relationships between variables are provided in Table 2. Phubbing was positively related to anxiety sensitivity ($r = .32$) and negatively related to interpersonal competence ($r = -.19$).

Table 2. Pearson Correlation Coefficient and Descriptive Statistics

Variables	1	2	3
1: Interpersonal Competence	1		
2: Phubbing	-.19*	1	
3: Anxiety sensitivity	-.28*	.32*	1
M	83.78	39.73	30.36
SD	14.18	13.48	6.67

* $p < .001$, M= Mean, SD= Standard deviation

Mediating Role of Anxiety Sensitivity

As shown in Table 3, regression analysis demonstrated that interpersonal competence significantly predicted phubbing (Coeff. = $-.19$, 95% CI: $-.30 - .08$; $p < .001$).

Table 3. Regression Model (Stage 1)

Predictor	Coeff.	SE	p	F	R
Constant	55.90	4.68	<.001		
Interpersonal Competence	-.19	.05	<.001	12.23	.19

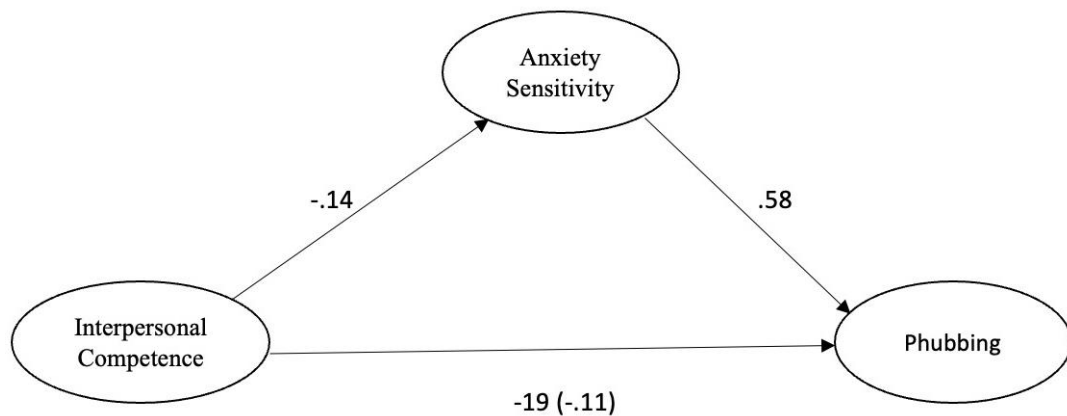
Coeff.= Coefficient.

As shown in Table 4 and Figure 1, the result of the regression-based mediation analysis demonstrated that interpersonal competence was statistically significant and negatively predicted anxiety sensitivity (Coeff. = $-.14$, 95% CI: $-.19, -.09$; $p < .001$) and phubbing (Coeff. = $-.11$, 95% CI: $-.21-.001$; $p < .05$). Anxiety sensitivity was statistically significant and positively predicted phubbing (Coeff. = $.58$, 95% CI: $.36 - .79$; $p < .001$). When anxiety sensitivity was added to the model, the core impact of interpersonal competence on phubbing decreased (from $.19$ to $.11$). This shows that there is a partial mediation effect. Furthermore, the total effect of interpersonal competence on phubbing was $.19$ ($p < .001$), the direct effect of interpersonal competence on phubbing was $.11$ ($p < .05$), and the indirect effect of interpersonal competence on phubbing was $.08$ ($p < .001$).

Table 4. Mediational Model (Stage 2)

	Anxiety Sensitivity			Phubbing		
Predictors	Coeff.	SE	p	Coeff.	SE	p
Interpersonal competence	<i>a</i> -.14	.02	<.001	<i>c'</i> -.11	.05	<.05
Anxiety Sensitivity	-----	-----	-----	<i>b</i> .58	.11	<.001
Constant	<i>i</i> ₁ 42.33	2.39	<.001	<i>i</i> ₂ 31.40	6.46	<.001
	$R^2 = .08$			$R^2 = .11$		
	$F_{(1, 319)} = 27.89, p < .001$			$F_{(2, 318)} = 20.55, p < .001$		

Coeff. = Coefficient.

Figure 1. Mediational Role of Anxiety Sensitivity**Table 5. Total, Direct, and Indirect Effects of Anxiety Sensitivity on Interpersonal Competence**

Effects	Estimates of Point β	%95 Confidence Interval	
		The lowest	The highest
Total effect	.19	.08	.30
Direct effect	.11	.001	.21
Total Indirect Effect	.08	.03	.13

Table 5 shows that all direct path coefficients are statistically significant because of the bootstrapping process ($p < .001$). Similarly, the indirect path coefficients were also significant (bootstrap coefficient = -.11, 95% Confidence Interval = -.21, .001, $p < .05$).

RESULTS, DISCUSSION, AND SUGGESTIONS

There was a significant negative relationship between phubbing and interpersonal competence; a positive and significant relationship was found between phubbing and anxiety sensitivity. The results of the regression analysis revealed that interpersonal competence significantly and negatively predicted anxiety sensitivity and significantly predicted phubbing. Anxiety sensitivity predicts phubbing in a

significant and positive manner. When anxiety sensitivity is added to the model, the effect of interpersonal competence on phubbing decreases. After controlling for anxiety sensitivity, a significant positive relationship was found between interpersonal competence and phubbing.

When the literature was examined, no study was found in which these three concepts were tested with this model. Studies reveal the relationships among interpersonal competence, phubbing, and anxiety sensitivity with various variables and their mediation effects. Because phubbing includes internet addiction, game addiction, social media addiction, and nomophobia (Yam & İlhan, 2020), studies with these concepts are also discussed in the current research. In parallel with the results of this research, a study conducted with university students determined that social media is a positive and significant predictor of interpersonal communication competence (Hollenbaugh et al., 2020). In a study conducted with adolescents, Savc and Aysan (2018) revealed that interpersonal competence predicts social media addiction and affects social media use. In a similar study, it was observed that the interpersonal competencies of the participants with medium and high levels of interpersonal competence and the purposes of using social media affect each other positively (Özcan & Yeter, 2022). Another study stated that social-emotional competence had a protective effect against adolescent phubbing (Cebollero Salinas et al., 2022). Nuñez et al. (2020) investigated the effects of phubbing on observers. Because of this research, it has been determined that phubbing creates negative effects and anxiety in the observers, the quality of the interpersonal relationship between the observed people and the observers deteriorates, and phubbing is a form of social exclusion originating from the smartphone.

The increase in the time spent on the phone also affects interpersonal relationships among individuals (Abramova et al., 2017). Trustworthiness and shyness in interpersonal relationships significantly predict phubbing (Parmaksız, 2019). It has been determined that students with low interpersonal competence during the COVID-19 pandemic have a high tendency to game addiction (Nugraha et al., 2021). Another study stated that interpersonal competence significantly affected game addiction (Munshi et al., 2020). Phone addiction often precludes a relationship with the environment (Youarti & Hidayah, 2018).

When studies on phubbing and anxiety sensitivity were examined, it was determined that phubbing predicted anxiety (Ergün et al., 2020). It has been stated that individuals with game addiction experience greater anxiety sensitivity (Kahraman & Kaya-Yertutanyol, 2021; Pazarbaşı Kahraman, 2020). Similarly, as game addiction increases, self-handicapping and anxiety sensitivity increase (Erim, 2020). Another study concluded that anxiety sensitivity predicted self-handicapping positively and significantly (Kalyon et al., 2016). Cargill (2019) revealed that social media use is associated with higher trait anxiety, social media addiction, and interpersonal problems in adults. As social media addiction increases, the level of anxiety also increases (Şeker, 2018). In this context, it can be said that the studies presented support the current research findings.

In this study, data were collected using the survey method, a self-report-based measurement tool. It was assumed that the participants made accurate and unbiased statements about themselves. This situation makes it difficult to establish causal links in the research results. Another limitation is that the data were collected without addressing ethnic and cultural differences. Finally, the number of samples and the unequal distribution of gender can be expressed as other limitations of the study. The results to be obtained in future studies that will be carried out by considering larger samples and different variables can be compared with the findings of this study. Qualitative, experimental, and longitudinal studies can be conducted to better explore the development of phubbing in individuals and the factors that are effective in this process. In the research, there was a significant negative relationship between phubbing and interpersonal competence; a positive and significant relationship was found between phubbing and anxiety sensitivity. The results of the regression analysis revealed that interpersonal competence significantly and negatively predicted anxiety sensitivity and significantly predicted phubbing. Other existing addictions of individuals (smoking, and alcohol) can be included in the study. In line with the findings of the research, it can be ensured that individuals gain awareness about phone addiction by providing information about

phone addiction in universities, municipalities, and various public institutions and by organizing psychoeducational programs. Social environments, workshops, and courses can be created by municipalities so that people who think they have a phone addiction can socialize, improve their interpersonal relationships, and replace their phones. In addition, psychiatrists, psychologists, and counselors working in the mental health field can prepare and implement individual and group counseling studies in line with these findings. To generalize the findings obtained from this research, experimental and longitudinal studies can be conducted with the relevant variables. The research results both support previous research results and reveal new findings. The findings of this study indicate that anxiety sensitivity is more effective than interpersonal competence in phubbing

Declarations

Conflict of Interest

No potential conflicts of interest were disclosed by the author(s) with respect to the research, authorship, or publication of this article.

Ethics Approval

Formal ethics approval was granted by the Educational Sciences Research and Publication Ethics Committee of Sakarya University. We conducted the study in accordance with the Helsinki Declaration of 1975.

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Research and Publication Ethics Statement

The study was approved by the research team's university ethics committee of Sakarya University (Approval Number/ID: 14.04.2022-123988. Hereby, we as the authors consciously assure that for the manuscript the following is fulfilled:

- This material is the authors' own original work, which has not been previously published elsewhere.
- This paper reflects the authors' own research and analysis in a truthful and complete manner.
- The results are appropriately placed in the context of prior and existing research.
- All sources used are properly disclosed.

Contribution Rates of Authors to the Article

1st author contributed 20%, 2nd author 20%, 3rd author 20%, 4th author 20%, and 5th author 20%.

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