Moderating Role of Self Esteem on Social Intelligence as a Predictor of Substance use among Undergraduate Students

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Abstract
The study investigated the moderating role of self-esteem on social intelligence as a predictor of substance use among undergraduate students. One hundred and twenty (140) undergraduate students which comprises of 40 male and 100 females with mean age of 21.48 and SD of 3.23 were drawn using multi-stage (cluster, simple random: by balloting and purposive) sampling techniques as participants from Enugu State University of Science and Technology, Enugu. Skinner (1982) Drug Abuse Screening Test (DAST-10), Hudson (1982) Index of Self-Esteem (ISE) and Silvera et al. (2001) Tromso Social Intelligence Scale were used for data gathering,

correlational design was adopted based on the fact that the relationships between the predictor variables and dependent variable was investigated and also the variables were either manipulate nor control, while a moderated hierarchical multiple regression using Statistical Package for Social Sciences (SPSS) Version 25 software was applied for data analysis.

keywords: *self-esteem, substance use, social intelligence*

Introduction

Substance use is the continued use of alcohol, illegal drugs, or the misuse of prescription or over-the-counter drugs with negative consequences (American Psychiatric Association APA, 2013; MedlinePlus, 2022). These consequences may involve (Weiss, 2020): Problems at work, school, home or in interpersonal relationships, Problems with the law, Health problems, Physical risks that come with using drugs in dangerous situations, Substances that are commonly used include: Alcohol, Amphetamines, Cocaine, Inhalants, LSD, Marijuana, PCP, Prescription drugs. Alternative Names: Substance abuse; Illicit drug abuse; Narcotic abuse; Hallucinogen abuse. While people commonly refer to problematic substance use as substance abuse, the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR) no longer uses this term. It is considered stigmatizing, so it is now preferred to use language such as substance misuse or substance use disorder. The National Institute on Drug Abuse (NIDA) says that abuse is no longer used because of its negative connotations and associations with punishment and judgment (National Institute on Drug Abuse NIDA, 2018).

Substance use is a complex problem which can be influenced different factors (Buddy, 2023). There is no way to predict who will become addicted to drugs, but a combination of influences can increase a person's risk of developing an addiction. Genes, other mental health conditions, developmental factors, and environmental influences all play a role (NIDA, 2018). People who drink alcohol or use drugs often initially get started to enhance their sense of well-being, relationships, and social enjoyment. Unfortunately, the downsides to substance use can emerge relatively quickly, depending on which substance and how much and how often it is used (NIDA, 2018).

Family history often plays a significant role, which can include both biological factors and learned behaviours. A person's susceptibility to substance misuse has a partial genetic basis, but environmental factors play an important role as well. Growing up in families in which drinking or using drugs is common or normalized also places one at a greater risk for developing a substance use disorder.

Generally, when people talk about substance abuse, they are referring to the use of illegal drugs. Drugs of misuse do more than alter mood. They can cloud judgment, distort perceptions, and alter reaction times, increasing the risk of accidents and injury (Buddy, 2023). These drugs were declared illegal in the first place because they are potentially addictive or can cause severe negative health effects (Buddy, 2023). Some believe that any use of illegal substances is dangerous and, therefore, abusive (Csete, et al., 2016). Sudraba et al., (2012) postulated hat that all the dimensions of social intelligence can significantly predict substance use.

Thorndike in 1920 defines social intelligence as the ability to understand and manage men and women and boys and girls, to act wisely in human relations (Zautra, et al., 2015). No one is born socially intelligent. Instead, it involves a set of skills that an individual learns over time (Morin, 2020). Individuals with social intelligence can sense how other people feel, know intuitively what to say in social situations, and seem self-assured, even in a larger crowd (Morin, 2020). People who are socially intelligent display core traits that help them communicate and connect with others. Effective Listening: A person who possesses social intelligence doesn't listen merely to respond but truly pays attention to what a person is saying. The other folks in the conversation walk away feeling like they were understood and that they made a connection (Morin, 2020). Socialization is often promoted to achieve integration among university students. With practical intelligence, social interactions can achieve productivity and success in associated areas. One aspect of student engagement on the university campus is social. Interactions with friends and peers in the academic and social spheres of the institution and interaction with teaching staff are the core area of campus social engagement (Zhoc, 2020). Sociability and social adaptability are interchangeable terms with social intelligence and are crucial for successful social engagements. Social intelligence manifests in an individual's social behaviour (Strang, 1930; Mohd, & Shiva, 2022). Sociability is social skills, traits, and abilities that help achieve desired social success (Gilliland & Burke, 1926; Mohd, & Shiva, 2022). These skills of social interactions aid in adapting to social situations (Gerardi, 2015). Social intelligence is a visible social skill, observed mainly through the responses experienced practically by oneself and others (Boyatzis et al., 2015). For students, social skills predict strategies for valuing acceptance by peers and involvement in campus activities (Chan, 2003; Mohd, & Shiva, 2022). Social intelligence enables a behavioural repertoire of social problem-solving skills, positive social actions, and pro-social traits that promotes success in friendships (Newcomb et al., 1993; Mohd, & Shiva, 2022). Thus, Interpersonal intelligence benefits social functioning in higher education institutions. Maltese et al., (2012) in a research find out that self-esteem is strongly and positively correlated with behavioural and emotional components of Social Intelligence. Akhter (2013) fund out that there was a relationship between Self-Esteem and Substance Use among young adult. This indicates that the presence of self-esteem can moderate social intelligence to predict substance use.

Self-esteem is regarded as an essential part of mental health (Amato, 2017; Mann et al., 2004) and is either a positive or negative mentality an individual hold toward him- or she (Kohn, 1994; Rosenberg, 1965; van Tonder, et al., 2023). Self-esteem is the subjective sense of overall personal worth or value (Cherry, 2022). Similar to self-respect, it describes the level of confidence in one's abilities and attributes. Having healthy self-esteem can influence the individual motivation, mental well-being, and overall quality of life (Cherry, 2022). However, having self-esteem that is either too high or too low can be problematic. Better understanding what unique level of self-esteem is can help to strike a balance that is just right. Key elements of self-esteem include: Self-confidence, Feelings of security, Identity, Sense of belonging, Feeling of competence.

Other terms often used interchangeably with self-esteem include self-worth, self-regard, and self-respect. Self-esteem tends to be lowest in childhood and increases during adolescence, as well as adulthood, eventually reaching a fairly stable and enduring level. This makes self-esteem similar to the stability of personality traits over time (Trzesniewski, et al., 2003; Cherry, 2022).

Self-esteem impacts one's decision-making process, relationships, your emotional health, and overall well-being (Cherry, 2022). It also influences motivation, as people with a healthy, positive view of themselves understand their potential and may feel inspired to take on new challenges. Four key characteristics of healthy self-esteem are (Cherry, 2022): A firm understanding of one's skills, the ability to maintain healthy relationships with others as a result of having a healthy relationship with oneself, realistic and appropriate personal expectations, an understanding of one's needs and the ability to express those needs.

People with low self-esteem tend to feel less sure of their abilities and may doubt their decision-making process. They may not feel motivated to try novel things because they don't believe they can reach their goals. Those with low self-esteem may have issues with relationships and expressing their needs. They may also experience low levels of confidence and feel unlovable and unworthy.

People with overly high self-esteem may overestimate their skills and may feel entitled to succeed, even without the abilities to back up their belief in themselves. They may struggle with relationship issues and block themselves from self-improvement because they are so fixated on seeing themselves as perfect.

There are many factors that can influence self-esteem. Your self-esteem may be impacted by (von Soest, et al., 2018): Age, Disability, Genetics, Illness, Physical abilities, Socio-economic status, Thought patterns. Racism and discrimination have also been shown to have negative effects on self-esteem (Johnson, 2020). Additionally, genetic factors that help shape a person's personality can play a role, but life experiences are thought to be the most important factor. It is often experiences that form the basis for overall self-esteem. For example, low self-esteem might be caused by overly critical or negative assessments from family and friends. Those who experience what Carl Rogers referred to as unconditional positive regard will be more likely to have healthy self-esteem.

Low self-esteem in university students includes negative evaluations of their appearance and behaviour (Rahman et al., 2017). As a result, individuals with low self-esteem tend to isolate themselves and avoid social contact (Keane & Loades, 2017). These feelings often keep individuals from building meaningful social relationships, which, in turn, results in these individuals feeling lonely (Keane & Loades, 2017; Mahon et al., 2006).

Social Control Theory by Hirschi (1969) is adopted as the theoretical framework for this study because it postulated that the external stimuli and influence of others is a central theme in social control theory and the age-graded theory of informal social control. The formation of strong bonds with conventional people and/or social institutions inhibits the natural tendency to engage in criminal behaviour (Sweeten, et al., 2009) and promote pro-social actions. This bond can define the student self-esteem which can moderate their level of social intelligence to cause either the presence or absence of substance use. The need to investigate factors that can necessitate substance use motivated this study, enhance the need to investigate the moderating strength of self-esteem on social intelligence as a predictor of substance use. Hence the following hypotheses

Social intelligence (Social Information Processing, Social Skills and Social Awareness) will significantly predict substance use

Self-esteem will significantly relate to social intelligence (Social Information Processing, Social Skills and Social Awareness)

Self-esteem will moderate social intelligence (Social Information Processing, Social Skills and Social Awareness) to predict substance use

Method

Participants

One hundred and twenty (140) undergraduate students which comprises of 40 male and 100 females with mean age of 21.48 and SD of 3.23 were drawn using multi-stage (cluster, simple random: by balloting and purposive) sampling techniques as participants from Enugu State University of Science and Technology, Enugu. The students were cluster according to their faculties, simple random: by balloting was used to pick the faculties, while purposive: a criterion selection-based sampling technique was used to select the participants from thirty-one (31) from Applied natural sciences, thirty-three (33) from Management sciences, thirty (30) from Environmental sciences, twenty (20) from Engineering and twenty-six (26) from Law.

Skinner (1982) Drug Abuse Screening Test (DAST-10)

The Drug Abuse Screening Test (DAST) is a 10-items designed to provide a brief instrument for clinical and non-clinical screening to detect drug abuse or dependence disorders by Skinner (1982). The DAST is available in both 20-item and 10-item formats; an Adolescent version is also available. The DAST-10 was found to be a psychometrically sound drug abuse screening measure with high convergent validity (r=0.76) when correlation with the Drug Use Disorders Identification Test (DUDIT) was measured and to have a Cronbach's alpha of 0.92. In addition, a single component accounted for 59.35% of total variance, and the DAST-10 had sensitivity and specificity scores of 0.98 and 0.91, respectively, when using the optimal cut-off score of 4. Additionally, the DAST-10 showed good discriminant validity as it significantly differentiated patients with drug use disorder from alcohol dependents.

Hudson (1982) Index of Self-Esteem (ISE)

It is a 25-item inventory developed by Hudson (1982) to measure the level of self-esteem / self-concept. It is a likert type scale anchord on 5-point rating. The response format ranges from 'Rarely or none of the time' to 'most or all of the time'. It has a direct scoring and reversed scoring. The direct score item are 1,2,8,10,11,12,13,16,17,19 and 24 while the reversed score item are 3,5,7,14,15,18,21,22,23 and 25. You add together the result of direct score and the reverse score item to obtain the overall score. Subtract 25 from the overall score to obtain the client's ISE score. Hudson (1982) provided the original psychometric properties for American samples while Onighaiye (1996) provided the psychometric properties for Nigerian samples. Hudson (1982) obtained a coefficient alpha of .93 and a two-hour test-reset coefficient of validity by correlating ISE with the stated resets: concurrent validity by SCL -90 by Derogatis et al. (1973) in scale C-interpersonal sensitivity =.46, scale D-Depression =.38. The high score on the scale meant a lower level of self-esteem, while lower scores indicated higher self-esteem. This scale is well known measure of self- esteem all over the world. Rosenberg (1965) reported internal consistency reliability (Cronbach alpha) ranging from 0.85 to 0.88 for the participating students.

Silvera et al. (2001) Tromso Social Intelligence Scale

Developed by Silvera et al. (2001) in order to reveal social intelligence level, the Tromso Social Intelligence Scale (TSIS) is a self-report instrument including 21 items. The TSIS measures intelligence on the base of three different subscales: (i) Social Information Processing (SIP): This subscale measures the ability of understanding verbal or nonverbal messages regarding human relations, empathizing and reading hidden messages as well as explicit messages. Sample Item: "I usually understand what people are trying to do without feeling the need for their explanations." (ii) Social Skills (SS): This subscale measures the basic communication skills such as active listening, acting boldly, establishing, maintaining, and breaking up a relationship. Sample Item: "I am good at becoming acquainted with people and being involved in new social circles." (iii) Social Awareness (SA): This subscale measures the ability of active behaving in accordance with the situation, place, and time. Sample Item: "I usually break others' heart without being aware."

Each of the subscales comprises of 7 items. A 7-point Likert-type scale form was prepared for the items included in the scale. The minimum and maximum scores in the items are 1 and 7 respectively. By Silvera et al. (2001), Cronbach Alpha internal consistency coefficients for social information processing, social skills and social awareness were found to be .81, .86 and .79 respectively. Regarding validity studies, expert opinion was asked, structure validity was conducted and similar scales validity was applied in the original scale. Among 130 items in the item pool, 21 items having a factor value higher than .045 and .30 correlation were selected. When varimax factor analysis was applied to 21 items, 3 factors were found to correspond to the theoretical basis. In terms of similar scale validity, it was examined by the Marlowe Crowne Social Desirability Scale (MSCD) and the correlation was found to be .22.

Procedures

Undergraduate students were selected as participants from four faculties in Enugu State University of Science and Technology (ESUT) using multi-stage sampling (cluster, simple random: by balloting, and purposive) techniques for this study. The students were clustered according to their faculties, simple random: by balloting was used to pick the faculties while purposive sampling techniques was used to select the participants from thirty-one (31) from Applied natural sciences, thirty-three (33) from Management sciences, thirty (30) from Environmental sciences, twenty (20) from Engineering and twenty-six (26) from Law. The researcher employed the research assistants whom are faculties' executives from the selected faculties to help distribute and retrieve the questionnaire. One hundred and fifty-three questionnaires were sent out, one hundred and forty-seven (147) were returned. Among the returning once, five bears multiple initials and the other two were not properly responded to, which make the numbers properly responded to be one hundred and forty, which was used for data analysis.

Design and Statistics

Correlational design was adopted based on the fact that the relationships between the predictor variables and dependent variable was investigated and also the variables were either manipulate nor control. The statistical test that was used for data analysis is moderated hierarchical multiple regression using Statistical Package for Social Sciences (SPSS) Version 25 software.

Results

Table I

Descriptive Statistics

S/N		M	S. D	1	2	3	4	5	6	7	8	9	10	11	12
1	Substance use	1.086	1.135	1	-.245	-.084	-.206	.101	-.063	.061	-.138	-.176	-.008	.094	.232
2	Social skills	28.86	5.867		1	.424	.502	.021	.622	.259	.423	-.148	.287	.073	-.006
3	Social awareness	28.23	5.652			1	-.008	.182	.423	.720	.172	-.159	.116	-.003	-.127
4	Social information	33.29	7.857				1	-.268	.092	-.188	.651	-.012	.047	.049	-.225
5	Self-esteem	72.63	19.28					1	.787	.802	.517	-.159	.251	.109	.289
6	Self-esteem*social skills	2098.26	693.1						1	.801	.664	-.240	.360	.096	.261
7	Self-esteem*social awareness	2069.91	759.1							1	.470	-.230	.236	.045	.127
8	Self-esteem*social information	2377.20	705.1								1	-.122	.238	.052	.039
9	age	21.49	3.231									1	-.239	.254	-.253
10	gender	1.714	.4534										1	-.048	.260
11	Year of study	282.86	94.41											1	-.086
12	Entry mode	1.2857	.4534												1

Table I above indicates a negative relationship between substance use and two dimensions of social intelligence (social skills r= -.245 and social information process r= -.206), this means that increase in the two dimensions of social intelligence will lead to decrease in substance use. Self-esteem did not correlate with substance use at r= .101. There was a positive relationship between substance use and mode of entry in to the university r= .232, this implies the presence of mode of entry into the institution will cause the presence of substance use.

Table II

model	**r**	**R^2**	**UnSt β**	**St β**	**t**	**Sign.**
1	.263	.069				**.021**
Social skills			-.036	-.185	-1.681	.095
Social awareness			-.001	-.006	-.067	.946
Social information			-.016	-.113	-1.138	.257
2	.275	.076				**.329**
Self-esteem			.005	.086	.979	.329
Self-esteem*social skills			-.001	-.573	-.696	.487
Self-esteem*social awareness			.005	3.081	4.319	.000
Self-esteem*social information			-.001	-.931	-2.694	.008

Age	-.044	-.126	-1.543	.125
Gender	-.059	-.024	-.287	.774
Year of study	.002	.175	2.191	.030
Entry mothed	.907	.363	3.766	.000

Dependent= substance use. At p< .05*, p< .01*, p< .001

Table II above indicates that social intelligence (social skills sign. = .095, social awareness at sign. = .964 and social information process at sign. = .257 at p< .05) failed to predict substance use among undergraduate student, though there were negative interaction between the different dimensions of social change and substance use. It implies that the increase in the independent variables will cause the decrease in the dependent variable. The table also shows the different dimensions of social intelligence (social skills, social awareness and social information) jointly correlated with substance use at r= .263, and they contributed 6.9% variation to substance use, the different dimensions of the predicting variable jointly predicted substance use at sign. = .021 at p< .05. Self-esteem did not predict substance use at sign. = .329 at p< .05. self-esteem moderated social awareness sign. = .000 at p< .001 to predict substance use. Self-esteem negatively moderated social information process at sign. 008 to predict substance use at p< .01. while self-esteem failed to moderate social skills at sign. = .487 to predict substance use. Year of study at sign. = .030 at p< .05 significantly predicted substance and mode of entry at sign. = .000 at p< .001 also significantly predicted substance use.

Discussion

The result obtained shows that the different dimensions of social intelligence (social skills, social awareness and social information process) failed to independently predict substance use among undergraduate students, but jointly predicted substance use. This indicates that social intelligence dimensionally cannot necessitate or bring about the occurrence of substance use, but possesses the strength to predict substance use when they are joint together, it implies that been intelligent socially might be able to prevent undergraduate from abusing substance.

The outcome of the result shows that self-esteem did not predict substance among undergraduate students, this implies that the worth or value the student places on themselves is not a factor that might lead to abuse of substance. Peer pressure, family background and other facts not investigated by the researchers might have contributed to the reasons while a no predicting result was obtained. This indicate that most undergraduate student abuses substance not to increase self-worth, maybe just to feel belonging, or to impress their peers.

Self-esteem was able to moderate social awareness and social information processing dimensions of social intelligence to predict substance use. There was a positive prediction on self-esteem moderating social awareness on substance use, this implies that increase in self-esteem and social awareness will bring about the use of substance among undergraduate students. The result obtained shows that increase in student self-esteem along with social awareness of substance might increase the chances of the student abusing it.

Self-esteem moderated social information process dimension of social intelligence to negatively predict substance use. This result indicates that increase in self-esteem and social information process about substance might lead to a decrease in the use of the substance, this is because the student will be updated about the side effect of the drugs or substance and the consequences of over using them, this will discourage the student from patronising one.

Implications of the result

The result obtained was accordance with social control theory by Hirschi (1969) which was adopted as the theoretical framework for this study because it postulated that the external stimuli and influence of others is a central theme in social control theory and the age-graded theory of informal social control. The formation of strong bonds with conventional people and/or social institutions inhibits the natural tendency to engage in criminal behaviour (Sweeten, et al., 2009) and promote pro-social actions. This implies that the value, kind and type of information available for the student determine if they will use substance or not, if there are enough enlighten on the side effect of using substance, it will discourage undergraduate student from abusing it.

The result obtained indicate high self-esteem along with increase in social awareness of substance increases the use of that substance, while high self-esteem along with increase in social information processes reduces the abuse of substance. Hence, there should be reduction on the different types or mentioning of the substance name during the awareness on substance, because instead of the student to stay away, rather they will want to experiment with the substance. More information on the side effect of abusing substance should be embark on by both school authorities and the government. This will help to draw the attention of student to the danger of abusing substance.

Limitation of the study

Some factors militated against this study, one of such is the sampled population. Sampling only one institution during call for sit at home by none-state actors reduces the numbers of participants, more students would have participated assuming more than one university was sampled.

The sampling techniques also affected the numbers of participants, the more students would have been sampled assuming a suitable sampling technique was adopted.

Some demographic variables were left on answered by the participants which lead to the researcher not including the outcome in the study, demographic such as religious affiliation, parental working status et al. These control variables would have help to give this study direction.

Suggestion for further study

Future researcher should consider sampling population from different institution and also to consider carrying this study none security threat period, this will give student opportunity to participate in the research.

A suitable sampling technique should be considered by future researcher, because this will give room for the selection of larger population.

The future researcher should consider to arrange the demographic variables in such a way that the participants will not leave them unattended to.

Summary and conclusion

The study investigated the moderating role of self-esteem on social information as a predictor of substance use among undergraduate students, result obtained shows no independent

prediction between social intelligence (social skills, social awareness and social information process) on substance use, but there was a joint predict between the dimensions of social intelligence and substance. Self-esteem moderated two dimensions of social intelligence (social awareness- negatively and social information process-positively) to predict substance use. Hence, more information on the side effect of abusing substance should be embark on by both school authorities and the government. This will help to draw the attention of student to the danger of abusing substance.

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