Investigating Attitudes Towards Drug Use; Age and Gender Differences

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Table of Contents

Abstract

Aim: The current study sought to update the existing literature by carrying out research examining attitudes towards drug use within an Irish context. The study examined age group differences in drug use attitudes, while also exploring gender differences. *Method:* Hypotheses were analysed through the use of a cross-sectional research design and a quantitative approach was employed. A sample of $n = 374$ (male = 103, female = 271) completed an online questionnaire which examined attitudes towards drug use. A refined version of Drug related knowledge, attitudes and beliefs in Ireland and the full version of Attitudes to drug use scales were used to assess attitudes towards drug use. *Results:* Statistical analysis found that the age group 18-30 obtained higher attitude scores than those aged 31-50, indicating that they held more positive attitudes towards drug use. Additionally, males also obtained higher attitude scores than females, indicating more positive attitudes towards drug use. *Conclusion:* Findings provide a greater understanding of the importance of examining attitudes towards drug use. More importantly, findings provide an insight into attitude differences within an Irish context. On a practical level, findings show the need for the implementation of interventions at an educational level for young people regarding drug use.

Introduction

Drug use is a problem in society which is continuing to grow and reach epidemic levels. In the past number of years the use of drugs has increased worldwide (Gebreslassie, Feleke & Melese, 2013). The use of cocaine has been on the rise in the United States since 2014 (McCabe, West, Teter & Boyd 2014). Johnston et al. (2019) documented that the annual prevalence of drugs excluding marijuana has increased from 14% in 1998 to 18% in 2017, with 2014 having the highest record of drug use at 21%. Another study also found in 2019 that an estimated 19.1 million people between the ages of 15 to 34 had used drugs, totaling to 16% of that age group population. From those people, it is thought that 17.5 million of them have used cannabis, and 2.6 million have used cocaine in the past year (European Monitoring Centre for Drugs and Drug Addiction, 2019). Previous research suggests that there are numerous negative consequences associated with drug use, not only for the user, but there are also wider implications on society as a whole. Problems from economic to academic arise from the use of drugs (Skidmore, Kaufman & Crowell, 2016). There is a strong correlation between the use of hard drugs like crack cocaine with crime and homelessness (Home Office Research Study, 2003), this creates a range of issues amongst different societies where the rate of both crime and homelessness continue to rise. Furthermore, drug use can have copious adverse effect on an individuals' health. Cadet and Bisagno (2016) report both medical and psychological difficulties which may arise from drug use. They found moderate cognitive deficits in a number of chronic drug users. Some recent research also reports statistics of over 94,000 juvenile arrests in the United States in 2017 that were related to drug violence (Office of Juvenile Delinquency and Prevention, 2018). Major Depressive Disorder (MDD) also has a strong correlation with drug use, particularly in young people (Brooke, Brook, Zhang, Cohen & Whiteman, 2002). Illnesses including HIV and AIDS are also associated with drug use. Mathers et al. (2008) reported that an estimated 15.9

million people inject drugs worldwide, with approximately three million of those HIV positive due to needle sharing or through the use of infected needles. This research exhibits that drug use is a paramount issue in society with the potential to produce an array of negative health consequences, as well as an immense cost on both individuals and society.

Over the past several decades, a number of approaches have been taken by researchers in an attempt to understand and explain the underlying mechanisms relating to drug use. These include the Social Learning Theory, The Gateway Hypothesis and The Normalisation Thesis. Bandura's (1977) Social Learning Theory often appears in the literature in an attempt to explain drug using behaviour. The fundamental premise of this theory is that people learn by observing others and, as a result, imitate or copy said behaviour. One of the strongest correlations with drug use is being exposed to the influence of substance using peers (Kandel, 1973). This means, when you are surrounded by substance using peers, the likelihood of you becoming subject to initiating substance use increases. This is an example of the Social Learning Theory in context within a peer population. Previous research has shown that young peoples' use of drugs is associated with the level of drug use in their friendship group (Duan, Chou, Andreeva & Pentz, 2008). The Social Learning Theory aids the explanation as to why research has found this. Young people are particularly vulnerable to peer influence, uncertainty and experimentation, leading them to be more vulnerable to the external influence of substance using peers. Another framework which appears in the literature for its influential research on the development of understanding drug use is the Gateway Hypothesis (Kandel, 1975; Kandel & Kandel, 2014) which proposes that drug using behaviours are learned in the brain through the experimental processes that are involved in drug use. For example, minimal exposure to cannabis may result in an increased usage of cannabis over time or, the progression onto other more dangerous drugs as people begin to view drugs as less risky because they have already experimented with other drugs.

This hypothesis suggests that young people will naturally progress from substances such as alcohol and cannabis to more serious drugs, however this is not always the case, and this framework can often be seen as oversimplified (Kleinig, 2015), nonetheless, this approach still remains influential and requires consideration and understanding when researching drug use behaviours and attitudes. The Normalisation Thesis (Measham, Newcombe & Parker, 1994) suggests that the use of some illicit drugs is likely to become normalised over time and that the use of these drugs would be socially accepted. This is likely to be apparent especially with younger generations. Research suggests that when the social norms associated with drug use are deemed to be acceptable and positive by society, it is expected that experimentation will likely follow suit (Johnston, 2002).

Some research shows that attitudes towards drug use is a salient feature of use in youths (Kandel, 1978; Otten, Wanner, Vitaro & Engels, 2008) but, in general, there is little research within the current literature that explores attitudes towards drug use, even though we know that there is a significant relationship between attitudes and predicting behaviour (Nanda & Smriti, 2017) such that more favourable attitudes indicate a greater likelihood of engaging in drug seeking behaviors. This research has shown to be true in a female population where attitudes towards drug use were the greatest predictor of substance use compared to other variables (Hauptfleisch, 2019). One of the few studies available that has examined attitudes towards drug use, risks and attitudes towards drug users was by Bryan, Moran, Farrell & O'Brien (2000). Their findings include that over half of the participants deemed it 'normal' to try drugs at least once in their lifetime. Since then, a study of this volume has not been conducted, meaning there is little up-to-date research on a field of research that is complex in its nature and everchanging. Updated research and data are necessary in order to attend to the problem accordingly. The current study will examine attitudes towards drug use and compare differences in age groups and gender.

Age in the context of drug use

A large body of the literature surrounding drug use and its correlation with age is within the college population and is also highly saturated in the United States. In 2018 it was documented that 14% of high school students reported using illicit drugs (Centers for Disease Control & Prevention [CDC], 2018). There is a small amount of literature which report rates of drug use outside of the college population. Kandel and Logan (1984) found youths are most likely to use drugs, and that experimenting in this portion of life is crucial. They also found that those who try drugs for the first time after the age of 21 are less likely to continue use than those using drugs from a younger age. A more up-to-date analysis found through longitudinal research that being in the age group of 19-28 resulted in an increased likelihood of being a drug user (Schulenberg et al., 2017). Other studies have also produced similar findings (Lopez-Quintero et al., 2010). Some research on drug perceptions have found that perceptions correlate with substance use (DeSantis, Anthony & Cohen, 2013; McCabe, 2008) such that when substances are perceived in a positive manner, substance use rises and when they are perceived negatively, the rate of use decreases. Research on attitudes has yielded similar findings to that of perception. Those who have more positive attitudes towards drug use are more inclined to experiment with drugs. Likewise, where attitudes are more negative, experimentation is less likely to occur (Järvinen & Østergaard, 2011). Researching attitudes differences in age groups towards drugs could provide further insight into why the youth have higher rates of drug use in comparison to their older counterparts, as it is clear from both research and frameworks that drug use is an emerging problem in young people with implications due to exposure to neurotoxins (alcohol and drugs) which include attention deficits (McQueeny et al., 2009) and memory problems (Brown, Tapert, Granholm & Delis, 2000).

Gender in the context of drug use

Another variable which commonly appears when researching drug use is gender. Little research has been conducted to examine gender differences in attitude towards drug use, despite a large body of literature examining prevalence, with mixed findings. In relation to the nonmedical use of prescription opioids, some research indicates higher prevalence exists in women (Matzger & Weinser, 2007), with others identifying higher prevalence in men (McCabe, Teter & Boyd, 2006). Some general population surveys reveal that drug use prevalence occurs in a two to one ratio in males than females (Hoare & Moon, 2010) which means that for every two male drug users, there is one female drug user. Examining the prevalence of illicit drug use is a difficult field of research due to the reliance of honesty from participants admitting to what is often, illegal drug use. In this case, it is important to study gender differences from a different context. Some research exists on the examination of gender differences in relation to attitudes towards drug use. From the few available studies, it has been found that men have more positive attitudes towards drug use than women (Novak, Reardon & Buka, 2002; Lancaster, Ritter & Matthew-Simmons, 2013). Currently, there are no pieces of research which suggest females have more positive attitudes towards drug use, despite some prevalence studies finding a greater prevalence of use within the female population. This warrants further research into the field of examining attitude towards drug use differences between genders in order to add to the existing literature and either replicate or produce new findings. Furthermore, the pieces of research mentioned are relatively old, with a need for updating.

The present study

To date, much of the research into drug use has been saturated by the examining of drug use prevalence. However, a handful of the literature suggests that attitudes are an important factor to consider in the research of drug use. The largest study examining attitudes

that exists in an Irish population is Bryan et al. (2000) as previously mentioned. This study is over two decades old, with no further replication or attempt to update the literature since. The research into drug use attitudes exists in other nationalities, albeit limited, highlights the importance of considering and further developing research into this field rather than the sole focus of research relating to prevalence. The current study aims to measure age group differences in attitudes towards drug use and furthermore, examine gender differences in attitudes towards drug use. The study seeks to provide up-to-date research on the phenomenon of attitudes which has in general, been widely ignored by the literature. The study will examine attitudes towards drug use within an Irish context. Attitudes towards drug use will be measured using two scales, one refined scale from Bryan et al. (2000) research study and the full version of the Attitudes to Drug Use (Harmon, 1993) which consists of twelve questions. Higher scores on each scale indicate a more favourable attitude towards drug use. Based on the aims of the research, the following research questions and hypotheses have been formulated.

Research question 1: How does being a part of a specific age group affect attitudes towards drug use?

Hypothesis 1: There will be a significant difference in attitudes towards drug use in the age categories of 18-30 versus 31-50, such that those in the category of 18-30 will have attitude scores which indicate a more favourable attitude towards drug use than those in the category of 31-50.

Research question 2: How does being male or female affect attitudes towards drug use?

Hypothesis 2: There will be a significant difference in attitudes towards drug use in males compared to females, such that males will obtain scores which indicate a more favourable attitude towards drug use than females.

Methods

Participants

The current research consisted of 374 participants (Male: *n* = 103; Females: *n* = 271). Participants were recruited through non-probability convenience sampling using the researcher's social media accounts (Facebook and Instagram). A link was shared with a brief paragraph describing what the study involved and how long participation was likely to take. A degree of snowball sampling was also used as some participants also shared the link to their own personal social media accounts to encourage others to partake in the study. Due to the online nature of the study, there was a heavy reliance on the willingness of others to partake. Demographic variables were collected to gain a brief insight into the sample. Of the participants recruited, 3 (0.8%) obtained no education, 3 (0.8%) completed primary level education, 144 (38.6%) completed secondary level education and 223 (59.8%) completed third level education. Participants resided in Capital cities (269), other cities (19), towns (55) or rural areas (31). 125 (33.4%) participants were students, 76 (20.3%) worked in a business or bank, 69 (18.4%) worked in a trade, and other occupations included retail 66 (17.6) and bar or restaurant 38 (10.2%).

Materials

The questionnaire was compiled using the online survey builder Google Forms, which consisted of several demographic questions to gain an insight into participants, a refined version of one scale and the full version of one other scales. Demographic questions regarding gender, age group, residing area, education level and occupation were asked. See Appendix 1 for information.

Drug related knowledge, attitudes and beliefs in Ireland (DKAB): To collect details regarding general attitudes towards drug use a refined version of Bryan et al. (2000) survey was used. In the original scale participants were asked to rate a number of statements

on a 7-point scale with *"disagree strongly"* representing a score of 1 and *"agree strongly"* representing a score of 7, however, due to experimental error, the refined version of the scale asked participants to rate each of the seven statements on a 5-point scale where *"strongly agree"* represents a score of 5 and *"strongly disagree"* represents a score of 1. Seven questions regarding attitudes towards drug use were taken from the original survey and administered to participants. Questions 1, 2, 6 and 7 are reverse scored. The scores for each question answered by participants are added up to give a total attitude towards drug use score. A higher score indicates a more positive attitude towards drug use while a lower score indicates a more negative attitude towards drug use. The highest possible score on this scale is 35, while the lowest score is 7. See Appendix 2 for full details. Cronbach's alpha was run to assess internal reliability of the refined questionnaire. According to Hulin, Netemeyer & Cudeck (2001) the questionnaire was within an acceptable range of reliability ($\alpha = .72$).

Attitudes to Drug Use (ADU): The Attitudes to Drug Use Questionnaire (Harmon, 1993) is a 12-item scale designed to measure individuals attitude to drug use. Responses are measured on a 5-point Likert Scale ranging from 1 = *strongly agree* to 5 = *strongly disagree.* Total scores are computed by adding up responses to each question and dividing by the number of questions in the questionnaire, which is 12. Any missing scores where participants failed to answer a question results in their total response being removed from analysis. Higher scores indicate a more favourable attitude towards drug use while lower scores indicate a less favourable attitude. The highest score that can be obtained is 5 with the lowest being 1. Items 1, 4, 5, 9 and 11 are reverse scored. In accordance with Hulin et al. (2001), the internal reliability of this scale is within a very good range ($\alpha = .89$). See Appendix 3 for more details.

Two attitude towards drug use scales were chosen to be used in the current study because the DKAB explicitly asked questions regarding specific illicit drugs like "*Occasional*

use of ecstasy is not really dangerous" , which the ADU did not, similarly, the ADU included more questions regarding general drug use attitudes like "*Drug use is one of the biggest evils in the country*" and "*To experiment with drugs is to give away control of your life*". The researcher felt it was important to assess attitudes regarding specific drugs but also to gain an insight of more general attitudes towards drug use, which each of the scales chosen done.

Inferential statistics were ran separately for the two questionnaires as they were measured on different subscales and therefore, it was not acceptable to add the two questionnaires totals together to produce one total attitude score. For the purpose of presenting results, the DKAB is labelled as "Drug related attitudes" and the ADU as "General attitudes towards drug use", with both questionnaires ultimately interested in attitudes towards drug use.

Design

A cross-sectional research design was implemented throughout the study as data was collected at one specific time point, with research taking a quantitative approach. However, a between-subjects design was applied to both hypotheses as different groups (male versus female and 18-30 versus 31-50 year old) were compared on their attitudes towards drug use. For Hypothesis one, the Independent Variable (IV) was age group, which consists of two levels, aged 18-30 and aged 31-50. The Dependant Variable (DV) was Attitudes Towards Drug Use which was assessed using two different scales, which results in hypothesis one being tested twice, once testing the IV on the "Drug related knowledge, attitudes and beliefs" questionnaire, which is the DV, and again testing the IV on the DV "Attitudes to Drug Use". For Hypothesis two, the IV was gender, consisting of two levels; male and female. The DV was the same as Hypothesis one, with the analysis being ran twice again on both DV's; Drug related knowledge, attitudes and beliefs and Attitudes to drug use.

Procedure

All of the participants were recruited through the use of the researchers' social media platforms Instagram and Facebook where a brief description inviting participants to take part and a link to the survey was provided. When participants clicked the link, they were met with an Information Sheet providing details of the study, what was required from them and any possible risks or benefits of participation. They were informed the questionnaire would take approximately 5 minutes to complete. Participants were informed that participation was voluntary, and withdrawal at any time was possible and encouraged if necessary, without penalty, however once submitted answers could no longer be retracted due to anonymity. (see Appendix 4 for details). In order to proceed with the study, participants were required to read and tick a consent form to verify that they were over the age of 18 and under the age of 50, they were also required to tick the consent form to verify that they knew what the study entailed and that they were fully aware of the nature of the study. See Appendix 5. Once participants agreed to the terms and conditions and consented to take part, they proceeded to answer demographic questions, followed by the refined version of the DKAB and finally the full version of the ADU, with both measuring attitudes towards drug use. When the questionnaire was complete, participants were met with a debrief form, which again detailed the nature of the study they had just completed. The contact details for several helplines were provided in the unlikely event that they feel psychologically distressed, along with both the researcher and supervisor's details should they have any further questions regarding the study. Finally, participants were thanked for taking the time out of their day to participate in the research study (see Appendix 6 for full details).

The research study was approved by the National College of Ireland's Ethics Committee and all data collected was in accordance with the NCI Ethical Guidelines and Procedure for Research involving Human Participants. No harm was likely to be encountered

through participation, however contact details of helplines were provided in the debrief section of the study in the unlikely event of stress occurring. Participants were informed that should this project receive a 2.1 grade or above, it will be published to the NCI library for students, staff and visitors to view, but that they would not be identifiable throughout the process of data collection, analysis or in publishing the paper.

Results

Descriptive Statistics

The current data is taken from a sample of 374 participants (n = 374). This is compiled of 72.5% females (n = 271) and 27.5% males (n = 103). Age was categorised into two groups; aged 18-30 (n = 256, 68.4%) and aged 31-50 (n = 118, 31.6%). Frequencies for residing area, occupation and education level are presented in Table 1 below. Descriptive statistics were collected for the continuous variables Drug Related Attitudes and General Attitudes Towards Drug Use. See Table 2.

Table 1

Frequencies for residing area, occupation and education level.

Variable	*n*	Valid Percentage
Residing Area		
Capital City	269	71.9
Other City	19	5.1
Town	55	14.7
Rural Area	31	8.3
Occupation		
Bar/Restaurant	38	10.2
Trade	69	18.4
Student	125	33.4
Business/Bank	76	20.3
Retail	66	17.6
Education Level		
Primary Level	3	0.8
Secondary Level	144	38.6

Third Level	223	59.8
None	3	0.8

Table 2

Descriptive statistics for continuous variables Drug related attitudes and General attitudes towards drug use.

Variable	*n*	*M*[95% CI]	*SD*	Range
Drug related attitudes	370	19.44 [18.96, 19.91]	4.64	23 [8-31]
General attitudes towards drug use	368	2.45 [2.37, 2.53]	.78	3.5 [1-4.5]

Inferential Statistics

Preliminary analyses were carried out on continuous variables to discover if there were any violations of the assumptions of normality. For both the drug related attitudes and general attitudes towards drug use scales, histograms showed that the data was non-normally distributed. On further investigation, a significant result ($p < .05$) of the Kolmogorov-Smirnov statistic was found for both the drug related attitude scale and the general attitude towards drug use scale which also indicates a non-normal distribution of data, therefore, an independent samples t-test was not suitable for use and so, the non-parametric alternative of an Independent Samples T-Test, the Mann Whitney U Test was computed instead. The analysis was ran four times, two times with gender (male or female) as the IV for both attitude scales (DV) and two times with age group (18-30 and 31-50) as the IV for the two attitude scales (DV). Results are described below.

A Mann Whitney U Test was conducted to assess differences in attitude scores from the Drug related attitudes scale between male and females. There was a significant difference

(p = .003) of attitude scores in males (Md = 21, n = 101) compared to females (Md = 19, n = 269), U = 10854, z = -2.99. However, the effect size was small (r = .16).

The same test was carried out again to assess differences in scores from the general attitudes towards drug use scale between males and females. There was a significant difference (p < .001) of attitude scores in males (Md = 2.67, n = 102) compared to females (Md = 2.33, n = 266), U =10340.5, z = -3.53, however the effect size was small (r = .18).

To examine differences in age groups, Mann Whitney U Tests were also conducted. The test was run to compare differences in attitude scores from the drug related attitudes scale between the age groups 18-30 and 31-50. A significant difference was found (p = .001) in attitude scores in the age group 18-30 (Md = 20, n = 253) compared to the age group 31-50 (Md = 18, n = 117), U = 11758.5, z = -3.19, but this effect size was small (r = .17).

A Mann Whitney U Test was run one final time to compare differences in scores from the general attitude towards drug use scale between the age groups 18-30 and 31-50. A significant difference (p = .001) was found in attitude scores in the age group 18-30 (Md = 2.5, n = 251) compared to aged 31-50 (Md = 2.17, n =117), U = 11597.5, z = -3.25, however the effect size was small (r = .17).

To summarise, males scores accumulated to be significantly higher on both the general attitudes towards drug use and the drug related attitude scales in comparison to females who scored significantly lower. These results indicate that males have a more positive/favourable attitude towards drug use than females. However, the effect size was small for both scales.

Similarly, those in the age group of 18-30 also accumulated significantly higher scores on both the general attitudes towards drug use and the drug related attitudes scales compared to those aged 31-50. These results indicate that those in the age group of 18-30 have more favourable/positive attitudes towards drug use.

The effect size for both age and gender differences on both attitude towards drug use scales were small, which means that although the differences found between groups were statistically significant, the differences are trivial in terms of effect size terms.

Discussion

While there are a number of variables that may influence attitudes towards drug use, the current research sought to examine differences towards drug use in two variables that have often appeared in the literature- age and gender. The first research hypothesis aimed to examine age group differences in attitudes towards drug use, while the second aimed to examine gender differences in attitudes towards drug use. Within the current sample, higher attitude scores were indicative of a more positive or favourable attitude towards drug use, while lower attitude scores were indicative of a more negative or less favourable attitude towards drug use.

Results from the first hypothesis found that there was a significant difference between age groups. On further analysis, it was found that the age group of 18-30 had significantly higher scores than those in the age group of 31-50, which indicates a more favourable attitude towards drug use, supporting the hypothesis. These results were found through the analysis of both attitude scales used. Although the results of the current analysis produced statistically significant findings, it is important to note that the effect size of these results were small. Nonetheless, the current results are consistent with prior findings that have shown young age to be a strong predictor of positive attitudes towards drugs (Novak et al., 2002). More recently, Friis, Østergaard, Reese and Lasgaard, (2017) also report that young age was associated with positive attitudes towards drug use. Previous research has shown that people who have positive expectations or attitude in regard to drug use are more inclined to become a substance user (Aseltine, 1995). Schulenberg et al. (2017) found that being in the age group of 19-28 increases the likelihood of being a drug user. We could infer from the results that the higher likelihood of being a drug user at a young age is because young people have more positive attitudes towards drug use, however, the direction of this relationship needs to be examined further as it is possibly two directional, which means that being more inclined to

use drugs could result in the production of positive attitudes towards drug use (Calafat, Fernandez, Juan & Becona, 2008).

A potential explanation for the findings in the present study could be due to the likelihood that older people are more aware of the risks related to drug use than young people. Furthermore, young people are more susceptible societal and peer influence, with young people typically spending more time outside of the family unit and in the company of peers and friends (Kakihara, Tilton-Weaver, Kerr & Stattin, 2009), leaving them more vulnerable to the influence of societal norms and attitudes. Considering the current research is in line with previous findings, it is clear to see that there are differences between young adults and older adults' attitudes towards drug use, however, what is not known is where do these boundaries lie? Perhaps, it would be beneficial for future research to compare the attitudes of young people who use drugs versus young people who do not use drugs. This would further build on the drug related attitudes research. Another possibility for future research would be through the inclusion of more age groups and to consider longitudinal research in order to pinpoint when attitudes become more or less favourable towards drug use.

Results from the second hypothesis also found a significant difference between genders. It was reported that males scored statistically significantly higher scores on both attitude scales in comparison to females who scored lower. These results indicate that males have a more favourable attitude towards drug use than females, which is in support of the second hypothesis. Again, although statistically significant results were produced, the effect size was also small for gender differences with regard to drug use attitudes. Despite this, most of the research to date has found males to have more positive attitudes towards drug use than females (e.g. Novak et al., 2002). A more recent study also replicated these findings which showed men to have more favourable attitudes towards drug use than females (Friis et al.,

2017). However, in contrast to the findings of the current study and previous research, one study in Sweden found that women in their sample had more positive attitudes towards drug use than males (Mousavi, Garcia, Jimmefors, Archer & Ewalds-Kvist, 2014). This could be due to a number of factors, including that the sample was only Swedish high-school students which makes it more difficult to generalise findings. This is the only piece of research available with contrasting findings.

There are a number of reasons why the current sample may have produced the results it did. Firstly, females are more at risk of falling victim to the cultural norms and stereotypes society has placed on them such as being the natural caregiver or stay at home mother/wife. Although, for many these stereotypes are outdated, females may be more subject than males to the social desirability bias when explicitly responding to questions about illicit drug use attitudes, meaning they provide responses which they feel will better conform to society, rather than what they actually feel. Future research should consider measuring attitudes towards drug use implicitly in order to yield more accurate findings, as it is much more difficult to respond implicitly in a socially desirable manner.

Practical Implications

There is mounting research on the role of attitudes towards drug use and the importance of investigating these attitudes. The current research, along with previous findings has suggested that young age is a characteristic of positive attitudes towards drug use. The research has also found that gender differences exist. There are a number of practical implications that could be employed in order to tackle the growing drug use epidemic around the world. Perhaps the Government could consider additional funding to the educational sector in order to provide awareness through the administration of intervention and awareness programs in both secondary schools and universities. This would enable people to learn from a young age about the risks that are involved in drug use, which results

in more informed decision making and lessens the susceptibility of peer influence. Further to this, it could be beneficial for future research to conduct qualitative interviews with young people to understand on a deeper level why young peoples' attitudes towards drug use are predominantly positive. This would provide better insight for the government, the minister for health and the Health Service Executive (HSE) when implementing new policies and amending existing ones such as 'Corporate Legislation, Mental Health, Drugs Policy and Food Safety Division'.

Limitations and Future Research

The present study provides statistically significant insight to the area of research concerning drug use attitudes and many strengths can be identified. However, there are also a number of limitations which must be discussed and carefully taken into consideration when analysing results. The main strength of the study was the use of a relatively large sample size (n = 374) within the Irish population. The study also gave a novel approach to gain insight into drug use attitudes within an Irish context. The results of researching attitudes within an Irish context were consistent with similar research that has previously been conducted in other nationalities. One of the last studies which aimed to assess attitudes towards drugs in an Irish context was Bryan et al. (2000), which is over two decades old, the current study has provided some up-to-date information regarding the stance of Irish peoples' attitudes towards drug use. Another key strength of the study is that it is easily replicable should future researchers be interested in analysing drug use attitudes using the same study design in order to replicate findings.

Despite the numerous strengths, within every study there are limitations which must be addressed. Firstly, although the internal reliability of the scales used were within an acceptable range of .7, due to experimental error Bryan et al. (2000) questionnaire was assessed on a 5-point scale which should have been 7-point. Although statistically significant

results were obtained, the effect size was small for each Mann Whitney U analysis. The small effect size found through the use of Bryan et al. (2000) refined scale could be due to the experimental error of using a 5-point scale instead of a 7-point scale. Perhaps a 7-point scale could have recognised the finer detail of drug related attitudes. Nonetheless, with a small effect size for every analysis the study ran, results should be considered with caution and they warrant the need for further replication. Further to this, perhaps future studies could benefit from conducting an alternative analysis, like a two-by-two ANOVA which would allow for discovering the existence of an interaction effect between variables, should any exist. Furthermore, although there was a large number of participants, there were more than double the amount of females ($n = 271$) than there were males ($n = 103$) and also more than double 18-30-year old's ($n = 256$) than 31-50-year old's ($n = 118$). Therefore, the study consisted of predominantly females and 18-30-year-old. A more varied sample would allow for greater reliability of results obtained.

The current study design was cross-sectional; however, future research may benefit from exploring longitudinal research, particularly with regard to age as it would allow for a more detailed detection of changes in attitudes across time rather than at one single time point, it would also allow for research to examine a wider range of age groups and to include people over the age of 50 years old. Finally, self-report measures were used to assess attitudes towards drug use, which is subject to inaccuracy. Although each individual response was anonymous, due to the nature of explicitly asking questions regarding illicit drugs, the survey as a whole was subject to social-desirability bias, which is responding in a manner which is deemed favourable by society. This is done by either over or under-reporting such as "strongly agree" or "strongly disagree" and as a result, reduces the reliability and validity of the current findings. To address this issue, future research could avail of using the Implicit Association Test (IAT) to analyse implicit attitudes rather than explicit attitudes.

Conclusion

There is consistent evidence in the existing literature which suggests drug use is an evolving issue, holding with it many implications for society as a whole. The current study set out to examine attitudes towards drug use, and more precisely to investigate age and gender differences in attitudes towards drug use. It was found that the age group 18-30 and males have a more favourable attitude towards drug use than the age group of 31-50 and females. These findings were consistent with the small body of existing literature that have examined substance use attitudes. Future studies may benefit from measuring attitudes implicitly through the use of the IAT, which will prevent some participants from responding in what they feel is a socially desired manner, yielding a more accurate representation of results. Additionally, future research should also consider a longitudinal study design to measure attitudes towards drug use and how they change and evolve over a lifetime. Finally, it may provide a greater insight into attitudes by comparing drug users' attitudes towards drug use versus non-drug users in a sample of young people. The current study represented a novel approach to add new information to the existing field of drug use research, however, future studies are needed to further replicate findings.

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Appendices

Appendix 1

Demographic questions.

1. What is your gender?
    - Male
    - Female
2. What is the highest level of education you have received?
    - Third Level
    - Secondary Level
    - Primary Level
    - None
3. Where do you live?
    - Capital City
    - Other City
    - Town
    - Rural Area
4. What age group do you fall into?
    - 18-30
    - 31-50
5. What is your occupation?
    - Bar/Restaurant
    - Trade
    - Student
    - Business/Bank
    - Retail

Appendix 2

Drug related knowledge attitudes and beliefs (Bryan, Moran, Farrell & O'Brien, 2000).

1. All illegal drugs are equally harmful to your health (R)
    - Strongly agree
    - Agree
    - Neutral
    - Disagree
    - Strongly disagree
2. If you try drugs even once you are hooked (R)
    - Strongly agree
    - Agree
    - Neutral
    - Disagree
    - Strongly disagree
3. Occasional use of cannabis is not really dangerous
    - Strongly agree
    - Agree
    - Neutral
    - Disagree
    - Strongly disagree
4. Occasional use of ecstasy is not really dangerous
    - Strongly agree
    - Agree
    - Neutral

- Disagree
- Strongly disagree

5. Occasional use of heroin is not really dangerous
    - Strongly agree
    - Agree
    - Neutral
    - Disagree
    - Strongly disagree
6. Regular use of cannabis is just as dangerous to your health as regular use of heroin (R)
    - Strongly agree
    - Agree
    - Neutral
    - Disagree
    - Strongly disagree
7. The availability of illegal drugs poses a huge threat to young people (R)
    - Strongly agree
    - Agree
    - Neutral
    - Disagree
    - Strongly disagree

Computing of scores: Items are scored on a scale of 1 to 5, where 1 represents strongly disagree, while a score of 5 indicates strongly agree. Items 3, 4 and 5 should be scored '5' for strongly agree and '1' for 'strongly disagree'. Remaining items 1, 2, 6 and 7 should be scored in the opposite way ('1' for 'strongly agree' and '5' for 'strongly disagree'). To obtain

attitude scores, items should be added together. A score of 35 will indicate a totally positive attitude toward drug use, while a score of 5 will indicate a totally negative attitude toward drug use. Items 1, 2, 6 and 7 are labelled with (R) as they are reverse coded.

Appendix 3

Attitudes to drug use (Harmon, 1993).

1. Using illegal drugs can be a pleasant activity (R)

	1	2	3	4	5	
Strongly Agree	[ ]	[ ]	[ ]	[ ]	[ ]	Strongly Disagree

2. A young person should never try drugs

	1	2	3	4	5	
Strongly agree	[ ]	[ ]	[ ]	[ ]	[ ]	Strongly disagree

3. There are few things more dangerous than experimenting with drugs

	1	2	3	4	5	
Strongly agree	[ ]	[ ]	[ ]	[ ]	[ ]	Strongly disagree

4. Using drugs is fun (R)

	1	2	3	4	5	
Strongly agree	[ ]	[ ]	[ ]	[ ]	[ ]	Strongly disagree

5. Many things are much riskier than trying drugs (R)

	1	2	3	4	5

Strongly						Strongly
agree	[ ]	[ ]	[ ]	[ ]	[ ]	disagree

6. Everyone who tries drugs eventually regret it

	1	2	3	4	5	
Strongly						Strongly
agree	[ ]	[ ]	[ ]	[ ]	[ ]	disagree

7. The laws about illegal drugs should be made stronger

	1	2	3	4	5	
Strongly						Strongly
agree	[ ]	[ ]	[ ]	[ ]	[ ]	disagree

8. Drug use is one of the biggest evils in the country

	1	2	3	4	5	
Strongly						Strongly
agree	[ ]	[ ]	[ ]	[ ]	[ ]	disagree

9. Drugs help people to experience life in full (R)

	1	2	3	4	5	
Strongly						Strongly
agree	[ ]	[ ]	[ ]	[ ]	[ ]	disagree

10. Schools should teach about the real hazards of taking drugs

	1	2	3	4	5

Strongly						Strongly
agree	[ ]	[ ]	[ ]	[ ]	[ ]	disagree

11. The police should not be annoying young people who are trying drugs (R)

	1	2	3	4	5	
Strongly						Strongly
agree	[ ]	[ ]	[ ]	[ ]	[ ]	disagree

12. To experiment with drugs is to give away control of your life

	1	2	3	4	5	
Strongly						Strongly
agree	[ ]	[ ]	[ ]	[ ]	[ ]	disagree

Computing of scores: Items 2, 3, 6, 7, 8, 10, 12 should be scored ‘1’ for ‘strongly agree’ to ‘5’ for ‘strongly disagree’. Remaining items 1, 4, 5, 9, 11 should be scored in the opposite way (‘5’ for ‘strongly agree’ to ‘1’ for ‘strongly disagree’). To obtain the attitude score for each individual, items should be added and then divided by the number of questions in the questionnaire (12). A score of 5 will indicate a totally favourable attitude towards drug use while a score of 1 will indicate a totally unfavourable attitude towards drug use. Any participant who does not answer all 12 questions should be excluded from analysis as total scores are accumulated by dividing the score by 12.

Appendix 4

Participant Information Sheet

Title of Study: An exploration of the explicit attitudes of older adults in comparison to young adults in relation to illicit drug use.

You are being invited to take part in a research study for a final year Psychology project. Please read this document in detail before deciding whether you would like to take part. This sheet provides information of why the research is being done, what it would entail for you as a participant and how your participation could be useful for the discovery of new information in the field of Psychology.

Should you have any questions about this sheet, please feel free to contact me using the details at the end of this sheet.

I look forward to hearing from you and thank you for your time and contribution to my study.

1. **The current study**

I am a final year student in the National College of Ireland studying a BA in Psychology. As part of our degree we must carry out an independent research project.

For my project, I decided to investigate the explicit attitudes towards drug use for two groups, the first being gender and second being age group. The study will explore whether being in a certain group are associated with different explicit attitudes.

Our explicit attitudes are the ones we deliberately report and think about. Our attitudes can prove to be great predictors of future behaviour. The hope of the study is that if there appears to be differences across age groups or genders future research can ask why? and this can be the starting point for future research in the area.

2. **What will taking part in the study involve?**

If you decide you would like to take part in this study, you will be asked to complete the questionnaire that has been created to test explicit attitudes toward drug use. this will be

completed on your own laptop or mobile device with internet connection and will take roughly 5-7 minutes to complete. Due to the nature of Covid-19, no in person aspect of the study will be involved.

3. **Who can take part?**

Anyone can take part in this study once they are over the age of 18 on the day they complete the questionnaire.

4. **Do I have to take part?**

Participation in this research is completely voluntary and each individual has the right to refuse participation with no implications.

Each participant will also have the right to withdraw without any consequences from the start of the questionnaire to the end, this can be done by simply closing the Google Docs tab on your device. However, once the submit button has been pressed withdrawal will no longer be possible due to the anonymity of participation and once submitted tests will not be able to be traced to any particular individual.

5. **What are the possible risks and benefits of taking part?**

There are no direct benefits to you for taking part in the research. However, the information that will be gathered will be a great contribution to future research and a great starting point for further studies who wish to explore drug use.

There is a small risk that some participants will experience distress due to the nature of the study. If you experience any distress, you are advised and encouraged to withdraw by closing the tab, there will be no implications for this.

There will be contact information of the relevant support services provided for all participants to access should distress occur, however, this is unlikely. These services are also confidential so there is no need to worry about identity being revealed.

6. **Will taking part be confidential and what will happen to my data?**

The questionnaire is anonymous therefore, it is not possible to identify a participant based on their response to questions in the study. All data collected will be treated in complete confidence with only myself and my academic supervisor having access to it.

All data will be stored under an ID code for organisation purposes and they will be kept in an encrypted file which is password protected with only the researcher having access. Data will be retained for 5 years in accordance with the NCI data retention policy.

There will be no paper record of this study.

7. **What will happen to the results of the study?**

The results will be presented in my final year dissertation, which will be submitted to the National College of Ireland. The results of the study may be submitted to an academic journal for publication to contribute to future research in the field.

8. **Who should you contact for further information?**

Should you have any more questions or require further information please do not hesitate to contact myself (researcher) Micha Howell at attitudesresearchproposal@gmail.com

Consent to participate:

□ I am over 18 years old and I consent to taking part in this study.

Appendix 5

Consent Form

By partaking in this research study, participants understand and agree to the following:

I have been informed of the nature of the study, the reason for conducting such research and that participation is completely voluntary.

I understand that I can refuse participation or withdraw from the study at any time in its duration, however, once the questionnaire is submitted withdrawal will no longer be available due to anonymity.

There are no expected risks from choosing to participate in the study and all data will be treated with confidentiality.

The data from participants will be analysed and reported in the researchers' final year Thesis, and if the grade receives a 2.1 or above, will be published in the library, however no participant will be identified through any stage of the study.

Required questions:

I verify that I understand with clarity what this study entails, and I consent to take part ☐

I verify that I am over the age of 18 and under the age of 50. ☐

Appendix 6

Debrief Sheet

1. **Title of project:** An exploration of the explicit attitudes of older adults in comparison to young adults in relation to illicit drug use.
2. **Debriefing**

Thank you for taking part in the study. This sheet will provide you with the full details of the study you chose to participate in.

The purpose of the study was to investigate if there were differences in explicit attitudes towards illicit drugs depending on whether you are 1) male or female and 2) in the age bracket of 18-35 or 36-60. We have two types of attitudes implicit and explicit. Our explicit attitudes are our conscious thoughts or feelings towards certain things. Often, they are favourable to societal norms, however with the use of anonymity people may feel more comfortable to share their explicit beliefs. The comparison of implicit versus explicit attitudes can often provide breakthrough evidence for many phenomena, but, due to Covid-19 this exploration was not possible.

You were allocated to a group based on your age and gender. The questionnaire was the same for all participants but answers for every participant varied based on their own attitudes.

I would like to thank you again for taking part in the study, if there are any further questions you would like to discuss please contact me.

As you are aware from the information sheet, withdrawal at this point is not possible, however, if you have any problems or distress related to the questionnaire please get in touch with one of the services below.

A copy of the study will be available for participants on request from mid-March.

3. **Support services**

For National College of Ireland students – NCI student Counselling and Wellness Service:

Counselling@ncirl.ie

Aware: 1890 303 302, supportmail@aware.ie

Samaritans: 116 123

Niteline: 1800 793 793, info@niteline.org

Narcotics Anonymous: 01 672 8000, info@na-ireland.org

4. **Contact information**

Micha Howell

attitudesresearchproposal@gmail.com

Appendix 7

Evidence of SPSS Output (full output file available upon request)

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Attitude1Total is the same across categories of What is your gender?.	Independent-Samples Mann-Whitney U Test	.003	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .050.

Independent-Samples Mann-Whitney U Test

Attitude1Total across What is your gender?

Independent-Samples Mann-Whitney U Test Summary

Total N	370
Mann-Whitney U	10854.000
Wilcoxon W	47169.000
Test Statistic	10854.000
Standard Error	914.543
Standardized Test Statistic	-2.986
Asymptotic Sig.(2-sided test)	.003

Appendix 8

Evidence of SPSS Dataset (full data file available upon request)

	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	Gender	String	6	0	What is your g...	None	None	6	Left	Nominal	Input
2	Education	String	15	0	What is the hig...	None	None	15	Left	Nominal	Input
3	ResidingArea	String	12	0	Where do you l...	None	None	12	Left	Nominal	Input
4	AgeGroup	String	5	0	What age grou...	None	None	5	Left	Nominal	Input
5	Occupation	String	14	0	What is your oc...	None	None	14	Left	Nominal	Input
6	AttitudeQ1	Numeric	17	0	All illegal drug...	None	-99	17	Right	Nominal	Input
7	AttitudeQ2	Numeric	17	0	If you try drugs...	None	-99	17	Right	Nominal	Input
8	AttitudeQ3	Numeric	17	0	Occasional use...	None	-99	17	Right	Nominal	Input
9	AttiudeQ4	Numeric	17	0	Occasional use...	None	-99	17	Right	Nominal	Input
10	AttitudeQ5	Numeric	17	0	Occasional use...	None	-99	17	Right	Nominal	Input
11	AttitudeQ6	Numeric	17	0	Regular use of ...	None	-99	17	Right	Nominal	Input
12	AttitudeQ7	Numeric	17	0	The availability...	None	-99	17	Right	Nominal	Input
13	AttitudeP2Q1	Numeric	1	0	Using illegal dr...	None	-99	11	Right	Nominal	Input
14	AttitudeP2Q2	Numeric	1	0	A young perso...	None	-99	11	Right	Nominal	Input
15	AttitudeP2Q3	Numeric	1	0	There are few ...	None	-99	11	Right	Nominal	Input
16	AttitudeP2Q4	Numeric	1	0	Using drugs is ...	None	-99	11	Right	Nominal	Input
17	AttitudeP2Q5	Numeric	1	0	Many things ar...	None	-99	11	Right	Nominal	Input
18	AttitudeP2Q6	Numeric	1	0	Everyone who t...	None	-99	11	Right	Nominal	Input
19	AttitudeP2Q7	Numeric	1	0	The laws about...	None	-99	11	Right	Nominal	Input
20	AttitudeP2Q8	Numeric	1	0	Drug use is on...	None	-99	11	Right	Nominal	Input
21	AttitudeP2Q9	Numeric	1	0	Drugs help peo...	None	-99	11	Right	Nominal	Input
22	AttitudeP2...	Numeric	1	0	Schools should ...	None	-99	11	Right	Nominal	Input
23	AttitudeP2...	Numeric	1	0	The police sho...	None	-99	11	Right	Nominal	Input
24	AttitudeP2Q	Numeric	1	0	To experiment	None	-99	11	Right	Nominal	Input