

Structural Equation Modeling of Social Adjustment Based on the Dimensions of Health Control and Attitudes toward Homosexuality Mediated by Attributional Styles in Gay Men

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Abstract

Background: A considerable part of homosexual men's tensions and inconsistencies can be explained by anti-homosexual social attitudes.

Objectives: The present study aimed to determine the structural equation modeling of the relationship of attitudes toward homosexuality and locus of control with social adjustment in gay men by the mediating role of attributional styles.

Methods: The present study was conducted based on structural equation modeling. The statistical population of this study consisted of all gay and bisexual men in Tehran in 2019. The participants were selected via snowball sampling method considering the probability of sample attrition. The research tools included the Social Adjustment Scale (1976), Multifaceted Health Lodging Scale (1976), Attributional Style Questionnaire developed by Peterson et al. (1982), and Researcher-Made Attitude to Homosexuality Questionnaire (2018). In this study, the structural equation modeling method was used to analyze the data in SPSS software (version 22) and AMOS software version (24.0).

Results: The direct path coefficient between attitude to homosexuality ($P<0.05$; $\beta=0.279$), locus of control ($P<0.05$; $\beta=0.237$), attributional styles ($P<0.01$; $\beta=-0.390$), attitude to homosexuality ($P<0.01$; $\beta=0.136$) and social adjustment were significant. The indirect path coefficient between control location and social adjustment was positive and significant at the level of 0.05 ($P<0.05$; $\beta=0.123$).

Conclusion: As evidenced by the obtained results, it can be concluded that attributional styles mediate the relationship between the locus of control and social adjustment in homosexual men.

Keywords: Social adjustment, Attributions, Locus of control, Homosexuality

1. Background

A considerable part of stress and inconsistencies in homosexual men can be explained by social antisexual attitudes. In this regard, Weinberg has introduced the concept of homophobia, which includes a range of negative attitudes, including fear and aversion to homosexuality (social rejection), as well as internal self-loathing (intrinsic non-acceptance) (1). Although homosexuality has been considered a major main source of tension (2), socioeconomic approaches in the study of homosexuality have pointed to negative social, economic, and health consequences in societies (3).

Homosexuality may also bring about severe physical and mental health consequences for gay and bisexual men. Minority Stress Model is a framework commonly used to explain psychological complications in gay and bisexual men, suggesting that homosexual and bisexual men living in a heterosexual society are sexual minorities. Consequently, they are susceptible to chronic stress caused by stigma on their sexual identity. This tension manifests itself in three ways: internalizing the negative attitudes of society towards themselves, expecting hot stigma or discrimination, as well as violence and aggression (4).

Social attitudes, documents, and perceptions are three dimensions of social thinking or cognition (5). Attribution Theory attempts to explain how a person tries to identify the causes of individual behaviors based on internal or external factors for themselves or others. Documents are a process in which people seek information about the causes of a specific behavior. They refer to human efforts to understand why they behave in a certain way (6).

Attributional style describes how people explain life events and show the difference between humans in internal/external documents (referring to the source of control), stable/unstable documents, and general/partial documents (7). In this regard, the results of a study by Farrokhi and Mostafapour (8) pointed to the important role of cognitive components (attributional styles) in people's adjustment. In the same context, Stamatoulakis and Nearchou (9) suggested that resorting to unsubstantiated documentation patterns was related to a wide range of motivational, emotional, and social consequences.

Meanwhile, the locus of control is one of the personality traits associated with individual and social adjustment (10). According to Rotter, the locus of control refers to people's generalized expectations about the relationship between

behavior and the reinforcements received in the context of problem-solving. People who fail to see a connection between what they do and what happens to them and attribute it to luck, destiny, fortune, or others are under external control. On the contrary, those who can understand the connection between their efforts and what happens to them are under internal control (11).

According to this theory, people who believe in the internal source of health control assume that their health status is directly related to their behavior and performance, while those who believe in an external source of health control consider factors, such as physicians, luck, fortune, and destiny, responsible for their health (12). Attribution theory is based on the assumption that humans attribute the causes of events to internal or external factors, and therefore, the first group has an internal locus of control, and the second group has an external locus of control (13).

In this regard, Lamontagne et.al (14) suggested that the source of control is related to the extent to which people feel that they can control the events affecting themselves, and therefore, in this study, the source of internal control was related to mental health and social adjustment. Homosexuals and bisexuals may suffer difficulties solely due to their sexual orientation, or for other reasons, such as the stigma of society stemming from their incompatible behavior with their biological gender. This in turn leads to social incompatibility and exposure to psychological problems. The investigation of the factors associated with these incompatibilities highlights the importance and necessity of this research.

2. Objectives

The present study aimed to determine the structural equation modeling of the relationship of locus of control and attitudes toward homosexuality with social adjustment in gay men by the mediating role of attributional styles.

3. Methods

The present study was conducted based on structural equation modeling. The statistical population of this study included all homosexual and bisexual men in Tehran in 2019. To determine the sample size, the subject's ratio to the estimated parameters method was used. Based on this method, the ratio of 5:1 subject to estimated parameters, small sample size, 10:1 ratio of suitable sample size, and 20:1 ratio creates the desired sample size. Some researchers observed a ratio of 15 subjects per variable and others recommended the ratio of 10:20 subjects per observed variable (15). Therefore, considering the probability of

sample attrition, 206 subjects were selected by snowball sampling method from virtual networks associated with the Iranian Lesbian, gay, bisexual, and transgender (LGBT) Protection Association. The inclusion criteria were as follows: male gender, Iranian nationality, residing in Tehran, and lack of debilitating physical diseases (chronic diseases). On the other hand, the exclusion criteria entailed receiving psychiatric interventions during the past year, use of drugs, and addiction. This article was extracted from the Ph.D. dissertation in Health Psychology with a code of ethics (number: IR.HUMS.REC.1399.581) from Hormozgan University of Medical Sciences.

Social Adjustment Scale (1976)

This 54-item questionnaire assesses interpersonal relationships in different roles of outdoor work, work at home, family, school, friends, and partner on a 5-point Likert scale. In Iran, Soltaninejad et al. (16) reported Cronbach's alpha coefficient of 0.78 and the ability of this tool to differentiate between the elderly affected by the earthquake and other elderly in terms of social adjustment as an indicator of the validity of the instrument. In this study, Cronbach's alpha coefficients for the job, leisure, and family scales were obtained at 0.72, 0.75, and 0.74, respectively. The reliability of this questionnaire in the present study was 0.79 by Cronbach's alpha method.

Attitude to Homosexuality Questionnaire

This researcher-made questionnaire consists of 23 items which are rated on a 4-point Likert scale ranging from low=1, medium=2, good=3, to very good=4. In this study, to determine face validity, the questionnaire was provided to ten professors of different universities and their opinions indicated the appropriate validity of the present tool. To extract the underlying factors of this questionnaire, its 23 items were analyzed using an exploratory factor analysis approach. The results showed that the Kaiser-Meyer-Olken index (KMO) was 0.657 and Bartlett's spherical index was statistically significant. The initial analysis of the presence of eight components with a special value greater than one explained 65% of the total variance. Therefore, the number of factors was repeated with two stabilization and analysis for the second time, and this time, varimax rotation was used for the extraction of components. The results pointed out that items 20, 3, 5, and 2 did not cause a factor load on any of the factors of the questionnaire, and therefore, the referred items were removed (17). The reliability of this questionnaire in the present study was obtained at 0.83 by Cronbach's alpha method.

Multifaceted Health Locus of Control Scale

This questionnaire which was developed in 1978

consists of 18 items and 3 versions: A, B, and C. Three subscales of health locus of control include Powerful Others Health Locus of Control (items 3, 5, 7, 10, 14 and 18), Internal Health Locus of Control (items 1, 6, 8, 12, 13, and 17), and Chance Health Locus of Control (2, 4, 9, 11, 15, and 16). The items are rated on a 6-point Likert scale ranging from disagree=1 to fully agree=6. Watson et al (18) reported Cronbach's alpha coefficient of 0.85. In the present study, Cronbach's alpha coefficient for this instrument was 0.71. The reliability of this questionnaire in the present study was 0.75 by Cronbach's alpha method.

Attributional Style Questionnaire (Emotion Achievements Questionnaire)

This questionnaire which was developed by Peterson et al. is a 60-item survey that measures individual differences in attributional styles by asking respondents to identify and rate causes for 12 hypothetical situations (6 events with good outcomes and 6 events with bad consequences). The items assess respondents' attributional documents in three causal dimensions (internal/external, stable/unstable, general/ specific) on a 7-point Likert scale. A score of 1 indicates a greater tendency to attribute all events to external, unsustainable, and specific causes, while a score of 7 suggests a greater tendency to attribute all events to internal, stable, and general causes. Based on Lyons et al (19), Cronbach's alpha coefficients for this instrument were within the range of 0.65-0.70; moreover, they considered the negative correlation between negative causal documents and positive emotion subscale as an indicator of the convergence validity of this instrument. In the present study, Cronbach's alpha coefficients for internal/external, stable/unstable, and general/specific subscales were obtained at 0.76, 0.73, and 0.77, respectively. The reliability of this questionnaire in the present

study was calculated at 0.74 by Cronbach's alpha method.

Structural equation modeling was used to test the hypotheses of the present study. Firstly, the fit of the measurement model was evaluated by confirmatory factor analysis using AMOS software (version 24.0) and the Probability Estimation (ML).

4. Results

In terms of age study, participants were within the age ranges of under 25 years (n=66; 32%), 26-30 years (n=48; 23.3%), 31-35 years (n=51, 24.8%), and over 35 years old (n=41; 19.9%). It is worth noting that the age range of participants was 16-57 years (mean age score: 30.13± 7.72). Regarding occupation, the subjects were government employees (n=49), freelancers (n=75), and students (n=82). Considering education, they hold diploma (n=49; 23.8%), associates degree (n=20; 9.7%), bachelor's degree (n=78; 37.9%), and masters' degree (n=59; 28.6%).

The results demonstrated that the elasticity and skewness values of none of the variables were excluded from the range between +2 and -2. This indicates that the distribution of data related to the research variables does not have a clear deviation from the normality of the single variable. The results showed that the assumption of, and linearity was established among the data of the present study. The tolerance coefficient values were not less than 0.1 and the variance inflation factor values for each of the predictor variables were not higher than 10. Tolerance coefficient less than 0.1 and variance inflation factor value above 10 indicate alignment. In the present study, to evaluate the establishment or non-establishment of the assumption of multivariate normal distribution, data analysis of Mahalanobis distance (D) was used.

Table 1. Mean, Standard Deviation, and Cronbach's Alpha Coefficients of Research Variables

Variable	M	SD
Locus of control	16.02	4.12
Attributional styles- Inner/Outer	45.57	8.58
Attributional styles- Stable/Unstable	53.03	9.84
Attributional styles- General/Proprietary	53.59	9.33
Social Adjustment - Occupational Area	10.31	3.89
Social Adjustment -A leisure activity	20.11	3.97
Social Adjustment - Family Domain	15.76	2.84

Table 2. Correlation coefficients between research variables

Variables	3	4	5	6	7	8	9
Locus of control	-						
Inner/Outer	-0.32**	-					
Stable/Unstable	-0.22**	0.61**	-				
General/Proprietary	-0.24**	0.55**	0.49**	-			
Occupational Area	0.22**	-0.08	-0.04	-0.05	-		
Leisure activity	0.22**	-0.21**	-0.19**	-0.30**	0.27**	-	
Family Domain	0.16*	-0.14	-0.13	-0.19*	0.22**	0.31**	-

*P<0.01, **P<0.001

Table 3. Indicators of fit of the measurement model and structural model

Indices	Value	Structural model	Cut point
Chi-square	23.71	42.47	-
df	17	22	-
df ² /χ	1.39	1.93	Less than 3
GFI	0.97	0.95	>0.90
AGFI	0.94	0.91	>0.85
CFI	0.98	0.94	>0.90
RMSEA	0.04	0.06	<0.08

RMSEZ: root mean square error of approximation, GFI (goodness of fit index), AGFI (adjusted goodness of fit index), CFI (comparative fit index), df (degrees of freedom)

Skewness and elongation values of D-Mahalanobis distance were 1.076 and 1.430, respectively. This is suggestive of the assumption that multivariate distribution is normal among the data. The variable of attitude toward homosexuality is measured by the indicators of internal acceptance and social acceptance, as well as the hidden variable of attributional styles by internal/external dimensions, stable/unstable and general/specific, and social adjustment by job, leisure, and family domain indicators. The fit of the research measurement model was evaluated by confirmatory factor analysis using AMOS software (version 24.0) and probability estimation (ML). Table 3 displays the fitness indicators of the measurement model.

As illustrated in Table 4, the use of confirmatory factor analysis indicated that all fitness indexes supported the fit of the research measurement model with the collected data (1.39=df/2; CFI=0.981; GFI=0.974; AGFI=0.944; and RMSEA=0.044). The 4-factor table shows the standard error and crisis ratio for each of the markers of latent variables.

Unconscionable factor loads related to job markers of social adjustment, internal acceptance of attitude to homosexuality, and internal/external dimension of attributional styles were established ($b=1$); therefore, their standard error and critical ratio were not calculated.

Table 5 displays that the relationships between factors and their related indicators are significant

and in the expected direction. The highest factor load belonged to stable/unstable indicators of causal documents ($\beta=0.867$), and the lowest factor load belonged to the job field marker ($\beta=0.381$) of social adjustment. Therefore, considering that the factor loads of all markers were higher than 0.32, all of them had the necessary power to measure the latent variables of the present study. Table 5 presents the total, direct, and indirect path coefficients between the research variables in the structural model.

As illustrated in Table 5, the direct path coefficient between attitude to homosexuality and social adjustment was positive and significant at the level of 0.05 ($P<0.05$; $\beta=0.279$). This finding indicates that by increasing a standard deviation on the scores of attitude to homosexuality 0.279 standard deviation increases on the scores of social adjustments of homosexuals. Therefore, in testing the first hypothesis, it was concluded that attitudes toward homosexuality positively and significantly predict social adjustment in homosexuals. Moreover, the direct path coefficient between the location of control and social adjustment was positive and significant at the level of 0.05 ($P<0.05$; $\beta=0.237$). Accordingly, the location of control positively and significantly predict social adjustment in homosexual men. Considering that low scores in the social adjustment questionnaire are suggestive of higher social adjustment and low scores in the control location questionnaire

Table 4. Parameters of research measurement model in confirmatory factor analysis

Latent variable	b	β	SE	t
Occupational Area	1	0.38		
Leisure activity	1.61	0.70	0.18	8.72**
Family Domain	0.91	0.47	0.16	5.59**
Internal Acceptance	1	0.63		
Social Acceptance	0.92	0.70	0.12	7.32**
General/Proprietary	1	0.80		
Stable/Unstable	1.13	0.86	0.10	11.24**
Inner/Outer	0.79	0.72	0.08	9.91**

0.01<P**

Table 5. Coefficients of the total, direct, and indirect path between research variables in the structural model

Path	Predicting variable	b	S.E	β	sig
Direct	Attributional styles to social adjustment	-0.08	0.03	-0.39	0.008
	Locus of control to attributional styles	-0.57	0.16	-0.31	0.001
Indirect	Locus of control to social adjustment	0.04	0.02	0.12	0.037
Total	Locus of control to social adjustment	0.14	0.04	0.36	0.004

signify internal control location, there is a reasonable relationship between the location of control and social adjustment in homosexual men.

The path coefficient between attributional styles and social adjustment was negative and significant at the level of 0.01 ($P < 0.01$; $\beta = -0.390$). Therefore, in testing the third hypothesis, it was concluded that attributional styles negatively and significantly predict social adjustment in homosexual men. The indirect path coefficient between attitude to homosexuality and social adjustment was negative and significant at the level of 0.01 ($P < 0.01$; $\beta = 0.136$). Therefore, attributional styles negatively and significantly mediate the relationship between attitude to homosexuality and social adjustment in homosexual men. This finding suggests that as one's attitude toward homosexuality becomes more positive, his/her attributional styles tend to be internal, stable, and general; moreover, the improved attributional styles of individuals lead to better compatibility of homosexuals. Therefore, positive attitudes toward homosexuality indirectly increase the social adjustment of homosexuals. The indirect path coefficient between control location and social adjustment was positive and significant at the level of 0.05 ($P < 0.05$; $\beta = 0.123$). Therefore, attributional styles positively and significantly mediate the relationship between place of control and social adjustment in homosexual men. This finding indicates that by internalizing the control location of people, their attributional styles tend to be internal, stable, and general, and this improvement in individual document styles leads to better compatibility of homosexuals. Therefore, the location of internal control indirectly increases the social adjustment of homosexuals.

5. Discussion

The present study aimed to determine the structural equation modelling of the relationship of locus of control and attitudes toward homosexuality with social adjustment in gay men by the mediating role of attributional styles. The obtained results pointed out that attitudes toward homosexuality positively and significantly predicted social adjustment in homosexuals. The results of testing this hypothesis were in line with those reported by Furnham (20) and Frost and Meyer (21).

Here, we can first refer to the conditions of attitude formation: the first condition is the density of experience which deals with a person or group of people and experiences close or similar which applies to homosexual men who participated in the present study according to the type of sampling method and the formation of negative internal attitudes. The second condition is based on differentiation which means that in the new experiences that are obtained, a certain attitude is

distinguished from similar attitudes, and the second condition can be explained by relying on the theory of documents that are stable and general in these men. The third condition is based on an emotional trauma or a dramatic experience involving a person who has emotional pressures on homosexual men due to the terrible social stigma attached to this condition. Finally, the fourth condition, which is probably the most important one, signifies that a large number of accepted attitudes are learned by imitating friends (22).

Therefore, it seems that when homosexual men with or without social approval encounter their homosexual friends and acquaintances, it leads to internal approval and acceptance. Moreover, their attitudes are transmitted to each other and intensified; consequently, it leads to the formation of internal and external attitudes toward acceptance or non-acceptance of homosexuality, affecting their social adjustment. The results denoted that the location of control positively and significantly predicted social adjustment in homosexual men. The results of this study were in line with those reported by Elizur & Ziv (23) and Hegarty (24).

It can be argued that the locus of control refers to people's beliefs about controlling their destiny (25) which can be distinguished through internal and external beliefs. Inner belief signifies that a person has more control over his/her destiny and tries directly to control the external environment, while in external beliefs, one imagines life under the influence of environmental and out-of-control factors. People with an internal locus of control believe that they can shape life events in themselves, while people with external sources of control assume that events are controlled by destiny, luck, fortune, or external sources of power (26). People with an internal locus of control are of the belief that they can shape life events themselves, while people with external sources of control believe that events are controlled by destiny, luck, and fortune, or by external sources of power (27). Therefore, it seems that homosexual men who have an external locus of control often determine their behaviors based on the wishes, needs, perceptions, and interpretations of others. On the other hand, men with an internal locus of control determine their behaviors based on their own wishes, needs, perceptions, and interpretations, thereby affecting their compatibility.

The results showed that attributional styles negatively and significantly predicted social adjustment in homosexual men. The results of the current study were in agreement with those obtained by Graham & Folkes (28) and Furnham (20). It can be stated that documents or attributions are a process in which human beings search for causes of the events around them. Man is a creature

that actively examines events: "Why did that happen?" The style of documents is the pattern of reasons that a person suggests to express pleasant or unpleasant events in his/her life. Therefore, the word "pattern" or "style" is used since the human mind uses the same approach in analyzing the positive or negative events around it.

In explaining the positive, negative, pleasant, and unpleasant phenomena, the human mind follows a particular pattern or style that is known and this is its documents. "Document" is a process in which a person seeks information about why a specific behavior is formed. People need to know the causes of their own behavior and that of others, as well as their lasting traits. To put it more clearly, the documents refer to one's efforts to understand the causes of other people's behaviors, as well as their own behaviors. Documents are a process that people use to link events or behaviors to their underlying factors.

The results that people get about the causes of other people's behavior affect their communication. Therefore, documents have a major role to play in many aspects of social behavior, such as long-term communication and conflict. Events and phenomena around them can be attributed to general or specific causes, and the identification of the causes of these events and phenomena can be attributed to stable or unsustainable. When something happens, it can be attributed to internal or external causes (29).

General documents of positive events and successes make you feel hopeful and efficacious. If the successes and positive events of life are attributed to general factors, they add to one's sense of mastery and self-efficacy since one believes that he/she will be successful in other situations. If positive events and successes are ascribed to specific factors, one's sense of dominance over life and the fact that positive and pleasant things happen in the future decreases since pleasant events and successes are not sure to occur later and are also related to specific factors (30). Stable documents of negative events and failures cause chronic helplessness.

The effect of stable documents on unpleasant, negative, and failed events is much more pronounced. The stable documents of positive events and successes bring hope and optimism. If positive events or successes are attributed to stable factors, they will have a direct impact on one's mental health and bring about hope (31). The association of pleasant events to internal factors not only reduces self-esteem but also increases helplessness. In most cases, the attribution of negative events to external factors contributes to the growth of self-esteem rather than internal factors. Internal-external documents affect human self-esteem. If successes are attributed to internal factors, self-esteem is strengthened (32). Therefore,

it seems that attributional styles of homosexual men increase their self-efficacy, hope, as well as self-esteem, and help their compatibility.

Attributional styles negatively and significantly mediate the relationship between attitude to homosexuality and social adjustment in homosexual men. This finding signifies that as one's attitude toward homosexuality becomes more positive, his/her attributional styles tend to be internal, stable, and general; moreover, an improvement in one's attributional styles leads to better compatibility of homosexuals. Therefore, positive attitudes toward homosexuality indirectly increase the social adjustment of homosexuals.

In the present explanation, it can be stated that the inner or outer location of a document affects the emotions related to self-esteem that accompany one's performance. The stability of a document determines future expectations. When people attribute success or failure to factors that do not change from one moment to another, whether internal (talent) or external factors related to tasks), according to their performance, their hopes fluctuate. On the other hand, when they ascribe the same returns to unstable factors (chance or effort), their hopes for future performance remain relatively intact (30). It seems that if these men have positive attitudes toward homosexuality and instead of unstable external documents resort to internal and lasting documents, the stability of documents which causes disappointment and experience of negative emotions in them do not reduce their compatibility.

The results pointed out that attributional styles positively and significantly mediate the relationship between the location of control and social adjustment in homosexual men. This finding suggests that with the internalization of the locus of control, the styles of their documents tend to be internal, stable, and general; moreover, this improvement in one's attributional styles leads to better compatibility of homosexuals. Therefore, the location of internal control indirectly increases the social adjustment of homosexuals. The results of testing this hypothesis were in accordance with those reported by Frost & Meyer (21), and Furnham (20).

In the present explanation, it can be argued that attribution theory is a motivational cognitive theory that investigates the process of causal perception in an individual. The concept of attribution style refers to the ways in which people explain the cause of events in their lives. Based on this approach, people are subjects who deliberately act according to their attitudes, beliefs, and desires. Therefore, this approach considers behavioral explanations of individuals as a part of social cognition and their theory of mind (30). Consequently, the location of the control, which includes the inner pole against

the outer one, raises whether the documents are related to the internal or external factors of the person. The stability dimension deals with the fact that the cause either remains constant or changes over time. The dimension of totality also determines whether these documents affect a wide range of situations or only affect a particular situation, and the last dimension is controllability that demonstrates the things that people can control or those out of their control. In general, it seems that the person documents the causes of events to internal or external factors, forming his/her source of control.

The concept of the attributional model as a learned skill implies a preferred explanation for the causes of events. According to this conceptual framework, in the face of negative events, one's tendency to use external, unstable, and specific causes indicates an optimistic explanatory style. Moreover, a person's willingness to use internal, sustained, and general causes is suggestive of a pessimistic attributional model. The use of non-related attributional patterns is related to a wide range of motivational, emotional, and physical dysfunctions (30) since the results of this study showed that it causes incompatibility in homosexual men.

In general, it can be stated that people's perceptions and attitudes towards the behaviors of others are influenced by several factors, and the reasons that people justify the behavior of others are influenced by these factors (29). According to the results of the present study, homosexual men who resort to an external locus of control, as well as internal, stable, and general documents, are less likely to experience social adjustment than their counterparts in explaining the stress caused by social stigma, as well as the lack of internal and external acceptance and acceptance of negative attitudes toward themselves. Therefore, homosexual men, who show more positive causal documents and higher internal acceptance in return for external control, cope with the events of life more effectively and are better able to resolve the problems and make reasonable decisions against unexpected events. As a result, they will live a more successful life and have good mental health and social adjustment.

In this research, a self-report tool was used to measure social adjustment and attitude toward homosexuality; consequently, the respondents may have consciously and unconsciously tried to portray themselves as desirable. The participants in this study consisted of non-clinical people; nonetheless, based on the existing research background, various reasons, such as fear of being labeled and high costs, may discourage these people from referring to medical centers and psychologists. Consequently, they deny the existence of any problems, and this, in

turn, can affect the results of the research. Participants' demographic characteristics, such as socioeconomic class, which the researcher had no control over and if controlled requires more time and cost, may have affected the results of the present study.

It is suggested that future researchers conduct qualitative studies using in-depth interviews to investigate social adjustment and attitude toward homosexuality and identify other influential factors. It is also recommended that future studies be performed on clinical samples in psychotherapy centers and hospitals with complaints of suicidal thoughts, as well as a history of suicide attempts and treatment, considering the possibility of the effectiveness of the treatment process on the results of this study. Furthermore, it is suggested that the present study be carried out on people with different socio-economic classes.

The best way to help the primary prevention of social incompatibility is to inform and promote people's understanding of the conditions and related underlying variables, such as attitudes to homosexuality. Therefore, it is possible to accelerate the prevention process in homosexuals susceptible to social incompatibility through appropriate formal and informal education, raising the awareness of individuals and families, and reducing the consequences. As secondary prevention in homosexuals susceptible to social incompatibility in terms of the variables studied in the present study, it is suggested that in the first place, we prevent the further spread of maladaptive, destructive, and damaging behaviors of these individuals. Secondly, by adopting and designing appropriate therapeutic interventions following the cognitive pre-preparations and conditions of each patient, we should try to get the patient to a more appropriate and persuasive situation to be able to adapt to his/her environment.

Furthermore, since the participants in the present study were non-clinical people, it is recommended that authorities and clinical therapists arrange public education and mental health services so that homosexuals prone to social incompatibility can use these services free of charge and easily. and by measuring the personality traits and pre-preparations of these individuals as well as the mechanisms of treatments tailored to these people. These risk factors provide them with a platform that raises the individual's awareness of internal and external experiences and how to respond to them.

6. Conclusion

As evidenced by the results of the present study, attributional styles mediate the relationship between locus of control and social adjustment in

homosexual men.

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None.

Conflicts of interest

The authors declare that they have no conflict of interest.

References

- Lira AN, Morais NA. Psychosocial adjustment profiles of gay and lesbian individuals involved in marital relations: a cluster-based analysis. *Paidéia* (Ribeirão Preto). 2020 Jun 3;30. <https://doi.org/10.1590/1982-4327e3013>
- Wright MO, Masten AS. Pathways to resilience in context. In *Youth resilience and culture 2015* (pp. 3-22). Springer, Dordrecht. https://doi.org/10.1007/978-94-017-9415-2_1
- Jeż W, Tobiasz-Adamczyk B, Brzyski P, Majkowicz M, Pankiewicz P, Irzyniec TJ. Social and medical determinants of quality of life and life satisfaction in women with Turner syndrome. *Advances in Clinical and Experimental Medicine*. 2018;27(2). <https://doi.org/10.17219/acem/66986>
- Chard AN, Finneran C, Sullivan PS, Stephenson R. Experiences of homophobia among gay and bisexual men: Results from a cross-sectional study in seven countries. *Culture, health & sexuality*. 2015 Nov 26;17(10):1174-89. <https://doi.org/10.1080/13691058.2015.1042917>
- Kertzner RM, Meyer IH, Frost DM, Stirratt MJ. Social and psychological well-being in lesbians, gay men, and bisexuals: The effects of race, gender, age, and sexual identity. *American Journal of Orthopsychiatry*. 2009 Oct;79(4):500-10. <https://doi.org/10.1037/a0016848>
- Harifi S, Mahmoodi Z, Qorbani M, Mohraz M. Status and relationship between health control and illness perception with psychosocial adjustment in HIV/AIDS-infected women. *HIV and AIDS Review*. 2020;19(3):187-92. <https://doi.org/10.5114/hivar.2020.99687>
- Sutton AJ, House T, Hope VD, Ncube F, Wiessing L, Kretzschmar M. Modelling HIV in the injecting drug user population and the male homosexual population in a developed country context. *Epidemics*. 2012 Mar 1;4(1):48-56. <https://doi.org/10.1016/j.epidem.2011.12.001>
- Farokhi H, Mostafapour V. Investigation into the relationship between attributional styles with social phobia and social adjustment. *Quarterly Journal of Health Breeze*. 2016 Mar 20;4(4):44-52.
- Stamatoulakis KK, Nearchou F. Homosexuality and priesthood: Conflict in the life of a Norwegian woman. *Procedia-Social and Behavioral Sciences*. 2015 May 13;185:160-4. <https://doi.org/10.1016/j.sbspro.2015.03.406>
- la Roi C, Dijkstra JK, Kretschmer T, Savickaitė R, Veenstra R. Peers and Homophobic Attitudes in Adolescence: Examining Selection and Influence Processes in Friendships and Antipathies. *Journal of youth and adolescence*. 2020 Nov;49(11):2229-45. <https://doi.org/10.1007/s10964-020-01298-8>
- Rollè L, Sechi C, Santoniccolo F, Trombetta T, Brustia P. The relationship between sexism, affective states, and attitudes toward homosexuality in a sample of heterosexual Italian People. *Sexuality Research and Social Policy*. 2021 Jan 20:1-3. <https://doi.org/10.1007/s13178-021-00534-5>
- Douglass RP, Conlin SE. Minority stress among LGB people: Investigating relations among distal and proximal stressors. *Current Psychology*. 2020 Jun 27:1-1. <https://doi.org/10.1007/s12144-020-00885-z>
- Xu W, Zheng L, Xu Y, Zheng Y. Internalized Homophobia. *Mental Health, Sexual Behaviors, and Outness of Gay/Bisexual Men from Southwest China*. *International Journal for Equity in Health*. 2017;16. <https://doi.org/10.1186/s12939-017-0530-1>
- Lamontagne E, d'Elbée M, Ross MW, Carroll A, Plessis AD, Loures L. A socioecological measurement of homophobia for all countries and its public health impact. *European journal of public health*. 2018 Oct 1;28(5):967-72. <https://doi.org/10.1093/eurpub/cky023>
- Yolaç E, Meriç M. Internalized homophobia and depression levels in LGBT individuals. *Perspect. Psychiatr. Care*. 2020 Jun 17:1-7. <https://doi.org/10.1111/ppc.12564>
- Soltani Nejad A, Barshan A, Baniasad A, Soltani Nejad A, Sam A, Sadie A. Investigating social vulnerability of the elderly in the earthquakes of Bam, Varzaghan, and Ahar. *Iranian Journal of Ageing*. 2017 Dec 10;12(3):360-71. <https://doi.org/10.21859/sija.12.3.360>
- Thomeer MB, Reczek K. Happiness and sexual minority status. *Archives of sexual behavior*. 2016 Oct;45(7):1745-58. <https://doi.org/10.1007/s10508-016-0737-z>
- Watson M, Greer S, Prunyn J, Van Den Borne B. Locus of control and adjustment to cancer. *Psychological reports*. 1990 Feb;66(1):39-48. <https://doi.org/10.2466/pr0.1990.66.1.39>
- Lyons A, Alba B, Waling A, Minichiello V, Hughes M, Barrett C, Fredriksen-Goldsen K, Edmonds S. Mental health and identity adjustment in older lesbian and gay adults: Assessing the role of whether their parents knew about their sexual orientation. *Aging & mental health*. 2020 May 12:1-8. <https://doi.org/10.1080/13607863.2021.1978927>
- Furnham A. Locus of control and attribution style. *Handbook of individual differences in social behavior*. 2009:274-87.
- Frost DM, Meyer IH. Internalized homophobia and relationship quality among lesbians, gay men, and bisexuals. *Journal of counseling psychology*. 2009 Jan;56(1):97.
- Shi X, Xu W, Zheng Y. Heterosexual marital intention: Effects of internalized homophobia, homosexual identity, perceived family support, and disclosure among Chinese gay and bisexual Men. *Journal of homosexuality*. 2020 Mar 20;67(4):452-67. <https://doi.org/10.1080/00918369.2018.1547558>
- Elizur Y, Ziv M. Family support and acceptance, gay male identity formation, and psychological adjustment: A path model. *Family process*. 2001 Jun;40(2):125-44. <https://doi.org/10.1111/j.1545-5300.2001.4020100125.x>
- Hegarty P. Attitudes toward homosexuality and LGBT people: Causal attributions for sexual orientation. In *Oxford Research Encyclopedia of Politics*. 2020 Jun 30. <https://doi.org/10.1093/acrefore/9780190228637.013.1173>
- Kulakow S. How autonomy support mediates the relationship between self-efficacy and approaches to learning. *The Journal of Educational Research*. 2020 Feb 10;113(1):13-25. <https://doi.org/10.1080/00220671.2019.1709402>
- Reyna C, Wetherell G, Yantis C, Brandt MJ. Attributions for sexual orientation vs. stereotypes: how beliefs about value violations account for attribution effects on anti-gay discrimination. *Journal of Applied Social Psychology*. 2014 Apr;44(4):289-302. <https://doi.org/10.1111/jasp.12226>
- Toulabi S, Hasanabadi HR, Izanlou B, Rahiminejad SP. The Effect of attribution retraining program on cognitive appraisal and achievement behaviors among university students. *Journal of Cognitive Psychology*. 2017;5(3).
- Graham S, Folkes VS, editors. *Attribution theory: Applications to achievement, mental health, and interpersonal conflict*. Psychology Press; 2014 Feb 4.
- Shehni Yailagh M, Lloyd J, & Walsh J. The Causal Relationships between Attribution Styles, Mathematics Self-Efficacy Beliefs, Gender Differences, Goal Setting, and Math Achievement of School Children. *Journal of Education & Psychology*. 2008;3(2): 95-114.
- Goldner L, Edelstein M, Habshush Y. A glance at children's family drawings: Associations with children's and parents' hope and attributional style. *The Arts in Psychotherapy*. 2015 Apr 1;43:7-15.

- <https://doi.org/10.1016/j.aip.2015.02.006>
31. Liu C, Bates TC. The structure of attributional style: Cognitive styles and optimism–pessimism bias in the Attributional Style Questionnaire. *Personality and Individual Differences*. 2014 Aug 1;66:79-85. <https://doi.org/10.1016/j.paid.2014.03.022>
32. Kazemi Y, Nikmanesh Z, Khosravi M, Hassanzadeh Z. The relationship of self-esteem and attributional styles with self-handicapping in primary schools. *International Journal of School Health*. 2018 Jan 1;5(1):1-6. <https://doi.org/10.5812/intjsh.13162>