

## Research Article

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# The ‘how’ of HIV infection matters: social judgments and responsibility attribution in the context of the AIDS epidemic

## Abstract

People living with HIV are frequently blamed for their health condition, especially in case they became infected with the virus through behaviour that is considered as non-normative. The aim of the current study was to explore the impact of HIV representations and prevailing social norms on judgments about people living with HIV. The study had a quasi-experimental design and was conducted on a sample of 240 university students, completing their pedagogical studies degree. The participants were asked to read a vignette depicting a fictitious character that was infected by HIV through different modes of transmission (heterosexual contact, homosexual contact, IV drug use, blood transfusion) and make their judgments. The results indicated that judgments were influenced by respondents' representations about the disease (contagious vs. infectious) and the social status of the HIV-positive person (deviant vs. non-deviant). Specifically, the participants who adopted a contagionist approach on HIV tended to hold more negative attitudes towards people living with HIV than those who perceived HIV as a transmissible disease. Furthermore, the participants appeared to be more judgmental towards persons who got infected through IV drug use or homosexual contact (norm-violating behaviours), than those who got infected through heterosexual contact or blood transfusion (normative behaviours). Overall, the results support the experimental hypothesis that responsibility attribution is based on the social desirability of the behaviours that were associated with the disease.

**Keywords:** HIV, representations, responsibility attribution, social judgments, stigma

## Introduction

People living with HIV (PLHIV) are frequently blamed for their health condition, especially in case they became affected by the virus through behaviour that is considered non-normative (e.g., homosexuality, injecting drug use). A large number of studies exploring people's attitudes towards PLHIV, carried out in the late 1980s – early 1990s, indicated that statements such as “most people with AIDS are responsible for having their illness” and “people with AIDS have gotten what they deserve” were receiving a high score.<sup>1</sup> Since 1996, Highly Active Antiretroviral Therapy (HAART) drugs have dramatically transformed the medical status of AIDS, from a rapidly and inevitably fatal disease into a chronic condition. The significant biomedical advances have led to the assumption that public attitudes towards PLHIV would be improved. However, the general population remains intolerant.<sup>2,3</sup>

The detection and prevalence of HIV infection among groups previously denigrated, leads people to perceive a causal link between social identity, already devalued and stigmatized, and HIV infection. The ‘4H disease’, an early name attributed to AIDS due to its prevalence among heroin users, homosexuals, hemophiliacs, and Haitians,<sup>4</sup> clearly indicates the representation of the infection as a ‘deviation’ or ‘error’.<sup>5</sup> The representation of the epidemic as an ‘error’ highlighted the importance of the notion of ‘individual responsibility’ towards the HIV infection and the risk of the dispersion of the virus. The bipolar classification of PLHIV as ‘good’ and ‘evil’ patients, ‘innocent’ or ‘guilty’ victims, and the development of a rhetoric of moral threat<sup>6</sup> are based on the above representations and the perceived ‘responsibility’ of the HIV-positive individuals for the choices, practices and behaviours that preceded the infection.

Responsibility is a notion which has figured prominently in attribution accounts of AIDS stigma.<sup>7</sup> Attribution theorists have noted

that people who got infected with HIV through behaviour that is perceived as controllable (e.g., sexual intercourse without condom, needle sharing) are assigned more blame and receive less sympathy than are PLHIV who contracted the virus via other circumstances, such as blood transfusion.<sup>7</sup> There is also evidence, coming out from empirical data, that attributions of responsibility towards PLHIV are influenced by pre-existing homophobic attitudes. Experimental studies on AIDS stigma have repeatedly shown that a homosexual man with AIDS elicits more negative reactions than a heterosexual man with AIDS, although both are considered as having been infected through sexual intercourse with multiple partners.<sup>3,8</sup> Therefore, HIV transmission may be judged differentially, depending on the HIV-positive person's social identity.

Goffman's conception of stigma as “an attribute that is deeply discrediting”<sup>9</sup> has been central to the analysis of HIV-related stigma.<sup>10-12</sup> Following Goffman, analysts have conceptualised stigma as a ‘blemish’ of character resulting from immoral, promiscuous, or disreputable behaviours; therefore, the analysis of stigma is shaped in individualistic terms,<sup>10</sup> influenced largely by social psychology.<sup>13</sup> Alike, according to the results of the work of Devos Comby and Devos<sup>14</sup> about social norms and judgments of responsibility, a person is held more responsible for a negative outcome when adopting counter-normative, rather than normative, conduct.

The aim of the present study was to explore the impact of prevailing social norms on judgments about the responsibility of PLHIV in association with the different transmission modes. The experimental hypothesis was that the attribution process is not purely rational, and that the personal values of the individuals making the judgment influence their perceived accountability of PLHIV.<sup>15</sup> It was expected that participants' judgments would be dependent on the social agency (deviant vs. non-deviant) associated with HIV transmission. More

specifically, reactions to PLHIV who are considered blameworthy for their infection because they engaged in non-normative behaviours (e.g., homosexual sex or IV drug use) were expected to significantly differ from reactions to PLHIV considered blameless because their infection was an inadvertent consequence of normative behaviours (e.g., heterosexual sex or blood transfusion). It was also expected that the explanatory models of AIDS (contagious vs. infectious disease) would exert influence on attitudes towards PLHIV.

## Materials and methods

### Participants

The participants (N=240) were undergraduate university students, from all pedagogical studies departments of the Greek universities. This participant group was purposefully selected, as primary school teachers play, directly or indirectly, a primordial role in shaping moral values and health related behaviours. One hundred twenty participants were male (50%) and 120 female (50%), with a mean age of 20 years old. Students from all academic years were represented.

### Procedure

The study was reviewed and approved by the Aix-Marseille University research ethics committee. In order to eliminate social desirability bias, the participants completed the survey anonymously. Consent was deemed as provided via survey participation.

### Instruments

The research team developed and presented a research package to all participants. The research package consisted of four parts. The first part included a questionnaire consisting of twenty questions based on previous KABP (Knowledge, Attitudes, Beliefs, and Practices) questionnaires. Participants were asked to fill in a questionnaire using a 7-item scale (from 1 = strongly disagree to 7 = strongly agree). The second part of the research package comprised of a written vignette, in which the content was held constant but the mode of HIV infection of the person in the vignette varied ([Appendix](#)). The mode of transmission was manipulated by means of four vignettes. Each vignette provided information as to how the stimulus person (SP) contracted HIV (either due to a 'deviant' or a 'non-deviant' behaviour). Out of the four stories, each participant was randomly assigned to only one. Following the vignette, the participants completed an attitudes and beliefs rating scale that was constructed by the researchers, using a 7-point scale (1 = strongly disagree, 7 = strongly agree). The questions were related to the SP. Specifically, a scale was used to assess the willingness to offer personal assistance, including activities with different levels of intimacy (body contact), the approval or the disapproval on providing institutional support, the social distance/social acceptability with different degrees of familiarity and trust, participants' feelings and responsibility attribution. At the end of the research package there was a participant information sheet, including the sociodemographic data (sex, age, year of study, and degree of religiosity).

### Statistical analyses

Factor analysis was used to group the participants based on their mean item scores on the first part of the questionnaire (KABP). To examine the associations between attitudes and other studied variables, both univariate (Pearson and Spearman correlation coefficients) and multivariate analysis (stepwise multiple linear regression using univariately significant variables as input variables) were performed. A p-value <0.05 was taken as statistically significant. SPSS was used for all statistical analyses.

## Results

### HIV representations

The principal component of analysis, after orthogonal rotation to improve the interpretability of factors, revealed four factors (components), with an index greater than 1.4. The Kaiser-Meyer-Olkin criterion permits an analysis with the method of principal components, since it has a value of 0.74, indicating the adequacy of correlations of the original variables. These factors explain 44.4% of the total variance, and according to the issues that seem to have a particular weight (> 0.4) in each factor, were named as follows:

Factor 1: moralistic – isolationist approach (12.2% of the total variance)

Factor 2: sex with stigmatized social groups (11.4% of the total variance)

Factor 3: contagious disease (11.2% of the total variance)

Factor 4: transmissible disease (0.5% of the total variance)

A variance analysis was applied to each factor, to investigate the possible effects of the social characteristics of the sample on the scores of the factors. The results are presented in Table 1.

More specifically, the sample's social characteristics (sex, age, year of study, level of religiosity) were each considered in isolation with each factor. For purposes of analysis, age, year of study, and degree of religiosity were grouped into the following categories:

1) for age: ≤ 20 years, 21–25 years, and > 25 years;

2) for the year of study: 1st year if year of study was 1, 2nd year if years of study were 2, 3rd year if years of study were 3, 4th year if years of study were 4, and 5th year if years of study were ≥ 5;

3) for the level of religiosity: non-religious, if the scale score was ≤ 4, and religious, if the scale score was ≥ 5.

There was a significant correlation at the p=0.02 level, between age and factor 2. It was observed that, as age increases, the participants tend to disagree more with the opinion expressed in the factor 2 (negative scores), that HIV is transmitted through sex with specific groups (homosexuals, IV drug users, immigrants, sex workers).

### Mode of transmission effect

The mode of transmission had significant independent effects on reactions to PLHIV; participants' responses were influenced by the experimental manipulation of 12 out of the 27 issues (p<0.05) (Table 2). The experimental condition 'contamination through IV drug use' influenced participants' responses to the reaction categories 'causality' (conditions of life, ignorance of mode of transmission) and 'responsibility' (personal and exclusive responsibility); the experimental condition 'contamination through blood transfusion' influenced participants' responses relating to 'causality' (random fact, lifestyle), 'social acceptability' (work), 'trust' (trusting the HIV positive person as primary school teacher and caregiver of children), and 'hazard' (same risk for themselves and their friends). The experimental condition 'contamination through heterosexual sex' influenced the reaction category 'liking' (positive image).

### Sex of participant effect

The results revealed that the sex of the participants had no significant effect on the reaction categories. However, participants' sex appeared to slightly influence responses on 'causality' and 'social acceptability'. It appeared that male participants tended to attribute the fact of the contamination to the ignorance of the HIV-positive person

regarding the modes of transmission ( $p=0.080$ ). It also appeared that female participants tended to be more willing to work the same space with the HIV-positive person ( $p=0.063$ ). It was also observed that participants' sex in relation to the experimental condition, influenced

responses regarding the 'kiss of life' ( $p=0.042$ ). Specifically, female participants in the experimental condition 'contamination through heterosexual sex', appeared to be more willing to perform mouth-to-mouth first aid provision, if needed, to the HIV-positive person.

**Table 1** Factor analysis

Questions	1st	2nd	3rd	4th	Frequencies
					Male, N (%) / Female, N (%)
Understanding doctors' refusal	0.68				1.5±1.0 / 1.5±1.0
Treating drug users as criminals	0.68				1.8±1.3 / 1.6±1.0
Isolation of patients from the general population	0.65				1.5±1.0 / 1.5±1.2
Divine punishment	0.62				1.4±1.2 / 1.4±1.1
School ban	0.54				1.4±1.0 / 1.6±1.3
No isolation of patients in the hospital	-0.5				4.0±2.0 / 4.5±1.8
Sexual contact with sex workers		0.76			5.7±1.5 / 5.7±1.4
Sexual contact with drug users		0.71			5.2±1.9 / 5.5±1.8
Sexual contact with homosexuals		0.7			4.7±2.1 / 4.6±2.1
Sexual contact with migrants		0.52			2.7±1.7 / 2.5±1.7
By caressing			0.75		1.3±0.76 / 1.2±0.51
By handshaking			0.7		1.4±1.1 / 1.3±0.76
By hospitalisation			0.36		2.3±1.5 / 2.0±1.4
By blood transfusion			-0.63		6.5±0.95 / 6.7±0.74
By infant transmission			-0.39		5.9±1.5 / 6.3±1.0
Not by the toilet			0.64		3.9±2.0 / 4.6±2.0
Not by wearing the same clothes			0.59		4.8±2.5 / 5.0±2.4
By cutlery and knives			-0.47		2.8±1.9 / 2.7±2.0
Not by using condom			0.43		4.8±2.0 / 5.1±1.9
By blood donation			-0.39		3.3±2.3 / 3.6±2.3

Note: We present only factor loadings  $\geq 0.30$ .

**Table 2** Differences of participants' responses depending on the mode of transmission

Questions	Mode of Transmission				p-value
	Heterosexual m (SD)	Homosexual m (SD)	IV Drug Usager m (SD)	Transfused m (SD)	
Living conditions	2.90 (1.77)	2.87 (1.70)	4.13 (2.11)	2.20 (1.49)	0.001
Random fact	3.80 (2.16)	2.53 (1.91)	2.53 (1.85)	4.47 (2.33)	<0.001
Punishment	1.72 (1.36)	1.69 (1.37)	1.90 (1.30)	1.31 (0.71)	0.317
No danger	5.73 (1.70)	5.33 (1.84)	5.47 (1.53)	6.13 (1.59)	0.261
Handshake exchange	6.13 (1.46)	5.93 (1.84)	6.30 (1.26)	6.67 (0.48)	0.202
Eating	5.33 (1.71)	5.20 (1.85)	5.07 (1.80)	5.53 (1.48)	0.756
Clothing loan	5.20 (1.77)	5.17 (1.90)	5.17 (1.88)	5.33 (1.35)	0.979
Cohabitation	4.33 (2.02)	3.93 (1.64)	3.80 (2.07)	4.17 (1.86)	0.713
Ignorance of modes of transmission	3.13 (1.78)	3.57 (2.06)	4.47 (2.15)	3.07 (1.68)	0.02
Personal responsibility	4.40 (1.87)	4.33 (1.75)	4.83 (1.93)	2.23 (1.77)	<0.001
Fatality	1.93 (1.60)	1.67 (1.35)	1.90 (1.45)	2.47 (1.87)	0.259
Lifestyle	3.33 (1.49)	2.83 (1.60)	2.87 (1.89)	3.97 (1.79)	0.036
The sole responsible	2.31 (1.73)	2.70 (1.93)	3.40 (2.37)	1.37 (0.76)	<0.001
Home hospitalization	5.73 (1.41)	5.87 (1.38)	6.07 (1.28)	6.13 (1.17)	0.63
Pension	5.48 (1.38)	5.17 (1.82)	5.47 (1.70)	5.93 (1.55)	0.337
Insurance card	4.17 (1.66)	4.30 (2.00)	3.93 (2.30)	3.47 (1.93)	0.381
Medical card	5.30 (1.84)	5.73 (1.51)	5.57 (1.94)	5.67 (1.71)	0.781
Identity card	2.03 (1.33)	1.80 (1.27)	1.80 (1.86)	1.87 (1.48)	0.925
Kiss of life	4.13 (2.08)	3.70 (1.90)	3.43 (1.94)	3.27 (1.64)	0.299
Exercise of the profession	5.90 (1.30)	5.83 (1.37)	5.03 (1.47)	5.93 (1.26)	0.032
Trust as a primary school teacher	5.60 (1.40)	5.37 (1.54)	4.37 (2.14)	5.90 (1.16)	0.003
Trust as a caregiver	4.70 (1.76)	4.37 (1.73)	3.67 (1.99)	4.90 (1.47)	0.044
Same workplace	6.00 (1.26)	6.13 (1.61)	5.87 (1.50)	6.47 (0.97)	0.364
Global image	5.47 (1.20)	4.87 (1.38)	4.60 (1.16)	5.33 (1.09)	0.024
Same risk for you	4.87 (1.66)	4.23 (2.11)	3.97 (1.73)	5.53 (1.80)	0.006
Same risk for your friends	4.90 (1.65)	4.27 (2.13)	4.17 (1.64)	5.40 (1.79)	0.032
Same risk for all the Greeks	5.07 (1.62)	4.63 (1.67)	4.30 (1.80)	5.40 (1.81)	0.079

## Religiosity of participant effect

There was a significant effect of participants' religiosity on the reaction category 'causality' (lifestyle, punishment, fatal fact, and ignorance) ( $p<0.05$ ). Particularly, the non-religious approved the view that "the HIV-positive person ignored the modes of transmission" ( $p=0.041$ ), while religious participants approved more the ideas that the contamination was a 'fatal fact' ( $p=0.049$ ), the 'lifestyle' caused the contamination ( $p = 0.034$ ), and HIV infection is a 'punishment' ( $p=0.021$ ). Taking into account the participants' religiosity and the experimental condition, it was observed that the non-religious individuals who participated in the experimental condition 'contamination through homosexual sex' approved more the ideas of "going to lunch at the HIV-positive person's house" ( $p=0.022$ ) and "entrusting their child/children to the care of the HIV-positive person" ( $p=0.050$ ), while the religious participants in the experimental condition 'contamination through IV drug use' approved more the opinion that the HIV-positive person has 'personal responsibility' for the situation ( $p=0.004$ ).

## Relations between HIV representations and attitudes

Participants with positive scores ( $mSD>0$ ) on factor 1 (moralistic – isolationist approach) seemed to approve the opinions that "AIDS is a punishment" ( $p=0.001$ ) and "HIV infection is fatal" ( $p=0.05$ ). Participants with positive scores ( $mSD>0$ ) on factor 3 (contagious disease) seemed to approve the opinion that "life conditions led to the contamination of the HIV-positive person" ( $p=0.038$ ), while those with negative scores ( $mSD=0$ ) on factor 4 (transmissible disease) seemed to approve the opinions that "the HIV-positive person is not dangerous for the society" ( $p=0.001$ ), "they would exchange a handshake" ( $p=0.046$ ), "they would go to lunch at the HIV-positive person's house" ( $p=0.002$ ), "they would lend their clothes" ( $p<0.001$ ), "they would cohabit" ( $p<0.001$ ), and "they would give the kiss of life to the HIV-positive person" ( $p=0.001$ ).

## Relations between HIV representations and HIV-positive targets

According to the analysis of the data, the factor 1 (moralistic – isolationist approach) influenced the opinion that "the HIV-positive person has personal responsibility for their contamination" ( $p=0.039$ ), when the SP was 'homosexual'. It also influenced the opinion that "the serostatus must be indicated in the public documents (such as ID card and passport)" ( $p=0.050$ ), when the SP was 'IV drug user'. The factor 2 (sex with stigmatized social groups) seemed to influence the opinion that "the risk of HIV contamination is the same for all the Greeks" ( $p=0.022$ ), when the SP was 'heterosexual'. The factor 3 (contagious disease) influenced the opinion that "the HIV-positive person has personal responsibility for their contamination" ( $p=0.050$ ), when the SP was 'IV drug user', and the opinion that "they would not entrust their child/children to the care of the HIV-positive person", when the SP was blood transfused ( $p=0.048$ ). The factor 4 (transmissible disease) influenced the opinions that "the HIV-positive person ignored the modes of transmission" ( $p=0.048$ ), "they would entrust their child/children to the care of the HIV-positive person" ( $p=0.030$ ), and "they would trust the HIV-positive person as a teacher of their child/children" ( $p=0.016$ ), when the participants read the vignette 'IV drug user'. Likewise, the factor 4 seems to influence the 'liking' (positive global image) of the HIV-positive person ( $p=0.037$ ), in case they were 'heterosexual', while influenced the opinion that "the serostatus must be indicated in the insurance card" ( $p=0.004$ ), when the SP was presented as 'homosexual'.

## Discussion

The results of the factor analysis indicate that the HIV representations can be classified into four different socio-cognitive clusters, functioning as explanatory models: a) moralistic – isolationist approach, b) sex with stigmatized social groups, c) contagious disease, and d) transmissible disease.

The findings also present three different profiles of HIV-positive persons, based on the mode of transmission: a) the profile of IV drug user, associated to a negative perception, b) the profile of the blood transfused person, associated to a positive image, and c) the profile of those who got infected with the virus via sexual intercourse, regardless of their sexual orientation. This is consistent with Apostolidis & Cordival<sup>16</sup> research concerning the attribution of responsibility towards an HIV-positive person. Devos-Comby and Devos<sup>14</sup> also found that PLHIV are considered more responsible for their infection when their behaviour transgresses a social norm than when it does not. Therefore, the 'how' a person got infected with HIV is critical.

The current study reveals that people's attitudes and judgments about an HIV-positive person may vary in function of HIV representations. More specifically, a moralist-isolationist approach on HIV, leads to the formation of negative attitudes towards the HIV-positive person, who belongs to a 'deviant' group (IV drug user or homosexual). On the other hand, the understanding of AIDS as a disease transmitted via sexual intercourse with marginalized and socially disadvantaged groups influences the risk perception of the participants (same risk for all the Greeks), when it comes to heterosexual HIV-positive persons, while it has no effect when it comes to homosexual HIV-positive persons. The contagionist approach on HIV seems to influence the attribution of responsibility in the experimental condition called 'IV drug user HIV-positive target'. More accurately, the participants who perceive AIDS as a contagious disease, tend to attribute personal responsibility to the IV drug user, in contrast to other modes of contamination (heterosexual and homosexual contact). Of particular interest is the impact of the contagionist approach on the level of trust of the participants towards HIV-positive people who were contaminated through blood transfusion. In this case, most participants answered that "they would not entrust their child/children to the care of them". In both cases, namely IV drug use and blood transfusion, the common denominator are the needles and the element of the blood. The association between these two modes of transmission was also noticed in a qualitative study on the social representations of personal responsibility and HIV infection, based on interviews with key Stakeholders of the healthcare sector.<sup>17</sup> In contrast, the approach of AIDS as a transmissible disease, influences in a positive way the attitudes of the participants towards the HIV-positive IV drug users. Specifically, respondents tended to attribute the contamination of IV drug users to the "ignorance of the modes of transmission" (low level of personal responsibility) and declared that "they would entrust their child/children to the care of them" (high level of social acceptability).

Furthermore, these results indicate that the sex of the participants does not significantly influence their attitudes, while the religiosity seems to have significant impact on attitudes' formation. We observe that non-religious participants attribute the causality of the HIV infection to the ignorance, while the religious ones to the lifestyle choices, fact that increases the degree of personal responsibility. Hence, the non-religious participants make rational attributions (i.e., ignorance about how the virus is transmitted), while religious participants rely on metaphysical interpretations (i.e., the destiny, God punishment). According to the existing literature, religious beliefs that

condemn homosexuality and substance abuse may contribute to or strengthen HIV stigma.<sup>18-21</sup>

Overall, the HIV responsibility attribution is affected by the social desirability of associated behaviours. The results of the current study support the idea of a multicomponent HIV stigma, associated with other stigmas of devalued identities and devaluating practices, such as gay-related stigma, drug use-related stigma, sex work-related stigma, etc. It is not only the disease per se that stigmatizes, but the social norm violations implied by this medical condition. This may explain why people's negative reactions towards PLHIV remain persistent despite the biomedical advances.

The results of this study should be considered in light of some potential limitations. First, its research design only provides quantitative data, which could be enriched in the future by qualitative research that would further explore the existing representations. Another limitation of this study is its ecological validity. Namely, it is uncertain if the judgments made as a response to a fictitious scenario would be similar to those made in vivo. A third limitation of the study relates to the generalizability, as it solely relies on a student sample.<sup>22</sup> It would therefore be of interest to replicate the study, drawing a representative sample from the general population. It would be also interesting to assess the attitudes of teachers who are currently in practice. A future study could investigate if older and more experienced teachers differ in their moral judgments from the young participants of the current study.

The findings of the present study provide researchers and practitioners with useful evidence for developing effective programmes against HIV stigma. Future interventions need to address and facilitate a social norms change, through appropriate training and education. It is suggested that courses on sexual diversity are included in the university curricula of pedagogical studies. Furthermore, awareness raising trainings on LGBT issues, drug use, sex work, and HIV, may reduce teachers' negative attitudes towards PLHIV. Moreover, it should be taken into consideration that PLHIV could be members of the school community (students, families, and staff). Stigmatizing attitudes by teachers not only impact PLHIV directly, but may influence the attitudes and behaviours of the children they work with.<sup>23</sup>

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## Conflict of interest

None.

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