The price of fame? Mortality risk among famous singers

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ABSTRACT

Background Is being famous a risk factor for premature death? Previous studies indicate that famous musicians have a higher mortality risk compared with the general population. However, these studies did not disentangle whether fame contributes to this increased risk, or whether it can be explained entirely by the demands of the music profession. The present study addresses this gap by isolating the effect of fame within the profession.

Methods We used a retrospective matched case–control design in a preregistered study to compare famous singers with matched less famous singers (total N=648) based on the matching criteria of gender, nationality, ethnicity, genre and solo/band status. We compared mortality risk using a Kaplan-Meier curve and used a Cox regression to test the effect of fame.

Results The results showed that famous singers had a 33% higher mortality risk compared with less famous singers.

Conclusion This study provides new evidence suggesting that fame may be associated with increased mortality risk among musicians, beyond occupational factors.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Previous studies have found that famous musicians tend to have a higher mortality risk than the general population, which might be a hint that fame is a risk factor for early mortality. However, alternative explanations remain plausible, as occupational stressors and mental health vulnerabilities likely also play a role.

WHAT THIS STUDY ADDS

⇒ By comparing famous and less famous singers with similar backgrounds, this study suggests that fame itself may contribute to increased mortality risk, beyond the risks associated with being a professional musician.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ The findings show that, when put to a stringent test, being famous goes along with an increased mortality risk. This highlights the need for targeted health interventions for individuals in the public spotlight and might stimulate future research exploring the causal mechanisms underlying the observed mortality.

INTRODUCTION

Being famous seems to be a relevant factor contributing to disparities in mortality. Several studies indicate that famous musicians face a higher mortality risk when they are compared with demographically matched individuals from the general population.[1–3] Specifically, North American and European famous musicians exhibit a mortality risk two to three times higher compared with the general population within 2 to 25 years after achieving fame,[1] and the suicide rate among famous musicians is reported to be two to seven times higher than the national average in the USA.[3]

Beyond the personal risks faced by musicians, the issue carries even broader societal implications as famous musicians are influential figures who often serve as role models, particularly affecting young people who may respond with imitation, idealisation and identification.[4 5] For example, studies indicate that reports of suicides by famous individuals are associated with an increase in suicides in the general population due to imitation effects.[6 7] Such findings highlight the importance of investigating the mortality risk of famous individuals, not only to protect the individuals directly affected but also to understand the broader consequences for society.

The increased mortality risk observed among famous musicians is partly attributable to the occupational demands of being a musician. Musicians often face irregular schedules, financial instability and social isolation.[3 8–10] Compared to the general workforce and amateur musicians, professional musicians show higher rates of anxiety, depression and psychosocial strain.[11–14] Previous research further demonstrated that these health risks are particularly linked to the professionalisation of music-making.[12] In line with this evidence, it has been argued that the heightened mortality among musicians cannot be explained by fame alone, but instead reflects the impact of occupational stressors, mental health vulnerabilities and genre-specific lifestyle risks.[3] Consistent with this perspective, recent research has identified musicians as a high-risk occupational group for suicide and psychological distress, primarily due to the interplay of psychological vulnerabilities with industry-specific pressures such as financial insecurity, identity-related stress and precarious working conditions.[15]

However, beyond the health risks associated with being a musician, fame may further amplify these risks through constant public scrutiny and pressure. Famous musicians report feeling objectified and judged by external expectations.[16 17] Being in front-facing roles can heighten vulnerability to depression and anxiety.[18] Fame has also been linked

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to greater exposure to normalisation of substance use as a coping strategy.[16 19 20] Early-life adversity may further compound these risks. Individuals with adverse childhood experiences may seek fame as a coping strategy.[2] A high number of such experiences is associated with increased mental health problems, substance abuse and suicide.[21–23] Against this background, the present study asks whether fame contributes independently to mortality risks beyond the occupational burdens of being a musician.

The goal of the present study was to examine whether being famous contributes to the elevated mortality rate among famous musicians. Accounting for critical subgroups is essential to avoid distortions arising from aggregated data,[24] and when dealing with non-experimental observational data, it is important to consider for relevant confounding variables that could affect the predictor and outcome variables.[25] Accordingly, we employed a matched-pair design[26] to examine whether fame adds an additional factor of mortality risk within an already vulnerable group. That is, we compared famous singers to less famous counterparts with similar demographics (gender, nationality, ethnicity) and professional (genre, and solo/band status) characteristics, ensuring maximum comparability between the two groups. This design allowed us to isolate the effect of fame while carefully controlling for potential confounders. Accordingly, we treated fame as a distinct variable in estimating its association with mortality risk. Based on this rationale, we hypothesised that famous musicians would exhibit a higher mortality risk than their less famous counterparts.

Table 1 Characteristics of famous and less famous singers

Matching variable	Characteristics	Famous		Less famous	
		n	%	n	%
	All	324	50.0%	324	50.0%
	Mean birth year	1949		1949	
Gender	Male	270	49.9%	271	50.0%
	Female	54	50.5%	53	49.5%
Nationality	North America	196	49.7%	198	50.3%
	UK, Europe (EU)	128	50.4%	126	49.6%
Ethnicity	Black	60	49.2%	62	50.8%
	White	250	49.9%	251	50.1%
	Mixed/other	14	56.0%	11	44.0%
Genre	Rock	211	50.0%	211	50.0%
	Pop	29	50.0%	29	50.0%
	R&B	45	50.0%	45	50.0%
	Rap	12	50.0%	12	50.0%
	Electronica	7	50.0%	7	50.0%
	New Wave	20	50.0%	20	50.0%
Band status	Solo	99	52.4%	90	47.6%
	Band	207	54.2%	175	45.8%
	Solo and band	18	23.4%	59	76.6%

Note: The percentages indicate, for each characteristic, how individuals are distributed across the famous and less famous groups (eg, percentage of male singers who are famous).
EU, European Union.

METHOD

Transparency and openness

The present study (hypothesis, design, analysis plan) was preregistered. A study codebook, data and analysis scripts can be found on the Open Science Framework.[27 28] We adhered to the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) checklist[29] to check for completeness and transparency during the final revision of this manuscript.

Sample

The sample size was determined using a power analysis for survival analysis.[30] The hazard ratio (HR) was calculated based on an annual mortality rate of famous musicians (HR=1.29) compared with the general population.[1] The power analysis indicated that a sample size of n=324 singers per group would be required to detect the effect with 80% power.

The final sample consisted of N=648 singers (n=324 per group). Of these singers, 83.5% were male and 16.5% were female. The mean birth year was M=1949.56 (SD=9.55), and the mean age of all singers was M=67.60 years (SD=12.66). The earliest recorded birth year was 1910, and the most recent was 1975. Most singers were from North America (61%), while fewer were from Europe/the UK (39%). Furthermore, most singers were White (77%) with only 19% being Black and 4% of other or mixed ethnic background. Most singers were in the Rock genre (65%), followed by R&B (14%), Pop (9%), New-Wave (6%), Rap (4%), and Electronica (2%). Finally, 59% of singers were in a band and 29% of singers were solo artists (12% solo and band).

Cross-distributions of each considered characteristic with fame status can be found in table 1. χ^2 and t-tests were used to test for potential differences between famous and less-famous singers. As expected from the matching procedure, we did not find significant differences in gender (χ^2=0.01, p=0.916), nationality (χ^2=0.03, p=0.872), ethnicity (χ^2=0.40, p=0.821), genre (χ^2=0.00, p=1.000) and birth year ($t(646) = -0.03$, p=0.980). However, the variable solo/band status showed a significant difference between famous and less-famous singers ($\chi^2(2) = 24.94$, p<0.001). Famous singers were more often either exclusively band members or solo singers, but less often both solo singers and band members at the same time, compared with the less famous singers (see table 1). As preregistered for any variable that might differ between the groups, we included this variable as a covariate in the main analysis.

Design

To investigate whether fame constitutes an additional risk factor beyond occupational burdens associated with being a musician, this study employed a retrospective matched case–control design. Data coding took place between February and May 2024 and September 2025 and was conducted by students who received course credit. As the study analysed publicly available data retrospectively, it did not require separate ethical approval. The study complies with the ethical standards of the Declaration of Helsinki.[31] The sample of famous singers was drawn from the Top 2000 Artists of All Time on acclaimedmusic.net.[32] This database aggregates critics' rankings from around the world to identify the most critically celebrated artists of all time. These rankings are based on published lists from music critics, journalists and industry professionals, excluding audience polls or sales data.[32]

Based on the databank, we included the first 324 musicians who met the following criteria: (1) only artists active after 1950 and before 1990 were included to ensure sufficient deaths by 31 December 2023; (2) only lead singers or solo artists were selected for homogeneity; (3) singers from North America and Europe were chosen because previous effects had primarily been observed in these cultural contexts; (4) only mainstream genres (ie, Rock, Pop, Rap, R&B, Electronica, New Wave) were included. Demographic data (birth/death dates, cause of death,

gender, nationality, ethnicity) and music-related variables (genre; solo/band artist categorised as solo, band, solo and band) were collected via online research, primarily through Google searches, leading to reliable public sources such as artist websites, biographies and obituary records. Ethnicity was categorised (Black, White, Asian, mixed, other) based on self-identification where available or inferred from photos and biographical context. Singers were excluded when their birth dates or nationalities could not be identified, resulting in a final sample of 324 famous musicians.

In a second step, a less famous 'twin' was manually matched to each famous singer. The twin mirrored the famous singer with respect to birth year, gender, nationality, ethnicity, genre and solo/band status. By equating groups on these variables, we controlled for their potential confounding effects and isolated the association between fame and mortality risk. These variables were considered potential confounders and were therefore matched to minimise their influence on the observed association. Less famous singers were searched on discogs.com. The birth year was considered a match when it fell within a range of ±2 years around the birth year of the famous singer. Musicians who were included in the Top 2000 Artists of All Time ranking and/or inducted into the Rock and Roll Hall of Fame were excluded. As a last step, the date of death was researched for the less famous individuals. While the exact sources varied depending on availability, the same general search strategy and assessment criteria were applied to both famous and less famous singers to ensure comparability between groups.

Main analysis

Data were analysed using SPSS (Statistical Package for the Social Sciences, version 29[33]). To investigate the effect of fame on the mortality rates, survival analyses were conducted using Kaplan-Meier curves for famous and less-famous singers, with censored data for individuals who had not died by 31 December 2023. Cox regression analysis assessed the mortality risk of famous versus less famous singers, with HRs indicating the relative mortality risk.

Additional analyses

Moderator analysis

In addition to our main hypothesis, we preregistered exploratory moderator analyses to test whether the effect of fame on mortality would differ, depending on the musicians' nationality, solo/band status or birth cohort. However, our study was statistically powered to detect the main effect of fame, not such potential moderator effects, which can only be robustly found in larger samples.[34] The corresponding underpowered analyses are presented in the supplementary online material for the sake of completeness (see online supplemental material, section 1). There were no significant moderation effects, indicating that the effects did not systematically depend on musicians' nationality, solo/band status or birth cohort. However, given the limited power, firm conclusions cannot be drawn.

Exploratory time-varying analysis

Because treating fame status as a fixed characteristic may obscure whether the elevated mortality risk arises specifically after fame is attained, we conducted an exploratory sensitivity analysis modelling fame as a time-varying exposure. This approach addresses potential temporal misalignment in defining fame status. In the exploratory time-varying Cox regression, fame status was coded as a time-varying covariate, with follow-up for famous musicians beginning at the year of fame onset. We defined the year of fame onset as the year of first chart entry (UK charts or US Billboard charts; n=17 without chart data were assigned based on debut album/single). This supplementary analysis allowed us to test whether the increased mortality risk emerged specifically after fame was attained.

RESULTS

Kaplan-Meier curve

The Kaplan-Meier curve showed that the mean survival time for famous singers was M=75.19 years (95% CI 72.98 to 77.40), and for less famous singers it was M=79.75 years (95% CI 77.51 to 81.99). The Kaplan-Meier curves started to diverge around 20 years. The first famous singer died after 21 years and 54 days, whereas the first less famous singer died after 29 years and 53 days (see figure 1).

Cox regression

The Cox regression showed that famous singers had a higher mortality risk compared with less-famous singers (e^{β}=1.32, 95% CI 1.00 to 1.73, p=0.045). We included the solo/band status as a covariate in the regression as it was the only variable that was not perfectly balanced (see figure 1). Band membership was associated with a 26% lower mortality risk compared with solo artists (e^{β}= 0.74, 95% CI 0.55 to 1.00, p=0.048). Nevertheless, the inclusion of this covariate did not influence the effect of fame on mortality; famous singers still showed a 33% higher mortality risk compared with less-famous singers (e^{β}=1.33, 95% CI 1.01 to 1.75, p=0.045).

Exploratory time-varying Cox model

In total, 36.5 person-years were observed under fame, and only two individuals (0.6%) achieved fame posthumously. In the time-varying Cox model, fame remained significantly associated with increased mortality risk. The HR for fame after chart entry was e^{β}=1.32 (95% CI 1.01 to 1.73, p=0.046). This suggests that the increased mortality risk is not solely attributable to baseline differences or to a reversed causal association in which premature death contributes to being famous, but that it emerges specifically after the attainment of fame.

DISCUSSION

The present study investigated whether being a famous singer is associated with an increased mortality risk. To isolate fame as a potential predictor of mortality, we compared famous singers with matched less famous counterparts, ensuring high comparability. As predicted, famous singers had a 33% higher mortality risk than less famous singers. In absolute terms, this corresponded to a mean survival time that was approximately 4.6 years shorter among famous singers compared with their matched counterparts. The result offers new evidence linking fame with higher mortality risk. The results align with the initial evidence showing that famous musicians have a higher mortality risk than the general population.[1–3] The increased mortality risk associated with fame is comparable to other well-known health risks such as occasional smoking (HR=1.34[35]). Given that these conditions are widely recognised as serious health threats requiring preventive measures, the similar impact of fame on mortality suggests that being famous is an important factor influencing longevity and underscores the need for targeted interventions to mitigate its detrimental effects on longevity.

We also addressed the alternative explanation that the effect might exclusively be driven by a reverse causal effect. As only

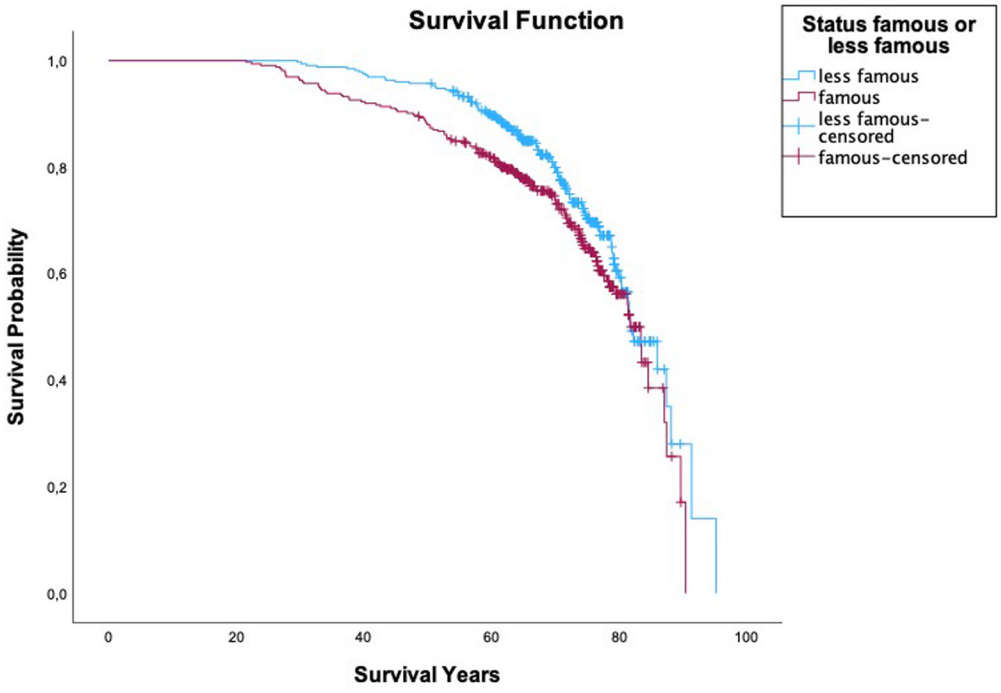

Figure 1 Kaplan-Meier survival curves of famous and less famous singers.

two individuals achieved public recognition after death in our sample, and since the exploratory time-varying Cox regression confirmed that mortality risk was pronounced after fame onset, reverse causality is an unlikely explanation for our findings. Together, the analyses indicate that an elevated risk emerges specifically after achieving fame, which highlights fame as a potential temporal turning point for health risks including mortality. Beyond occupational explanations, our findings suggest that fame adds further vulnerability within an already at-risk group.

The observed mortality differences point to an incremental effect of fame beyond shared occupational and demographic factors. Even though firm causal conclusions cannot be drawn, a potential explanation for the observed effect is the unique psychosocial stress that accompanies fame, such as intense public scrutiny, performance pressure and loss of privacy.[16 17] These stressors may fuel psychological distress and harmful coping behaviours, making fame a chronic burden that amplifies existing occupational risks.

Additionally, our results showed that solo artists had a higher mortality risk than band members, which aligns with previous research indicating that lead or solo performers face a higher mortality risk.[2] Possible explanations for this include increased individual exposure to the public[14] with the accompanying higher emotional strain.[13] Meta-analyses show that low social connectedness increases mortality risk while perceived support predicts longevity.[36 37] Being in a band may offer emotional and practical support, while solo artists may face more isolation and stress.

It is important to emphasise that fame is not exclusively associated with risks, given that famous individuals are typically in a privileged position with significant financial resources. Substantial evidence supports a positive relationship between socioeconomic status and healthy ageing, whereas a lower socioeconomic status is generally associated with premature death.[38] Additionally, there is evidence of an inverse relationship between wealth, as a component of socioeconomic status, and mortality.[39] Against this backdrop, the finding that fame is nevertheless linked to an increased mortality risk is particularly noteworthy. Being famous appears so detrimental that it overrides any potential benefits associated with high socioeconomic status. Again, this highlights the increased vulnerability of famous individuals, suggesting a need for targeted protection and support for this population.

Limitations and future directions

Our study focused exclusively on Europe and North America, limiting the generalisability of the findings to other cultural contexts. Future research should examine additional regions. Investigating other contexts is essential to understand better the mortality risks among famous musicians globally. We exclusively focused on singers to ensure a high level of comparability within our sample. However, this limits the generalisability of our findings to other domains of fame. It remains unclear whether the observed risks are specific to fame in the music industry or extend to other fields such as sports, acting or literature. For example, previous research indicates that famous athletes and artists died younger than famous academics, businesspeople and politicians, suggesting that certain forms of fame may carry greater risks.[40] Fame in the music industry often occurs in environments where substance use is normalised and protective structures may be lacking.[19 20] Future studies comparing different types of fame could help clarify whether early mortality is linked to fame itself or to the occupational context in which it arises.

Additionally, as the study relied on publicly available data, some degree of measurement error or misclassification is possible. For example, errors may have occurred when assigning fame status, causes of death or demographic variables such as ethnicity.

Despite these limitations, the main findings remain compelling. The present results offer the strongest evidence to date linking fame with a higher mortality, yet it is up to future research to clarify which causal mechanisms are at work. We can conceive of at least three possibilities. First, it is possible that being famous

has itself a causal effect on mortality, due to increased stress levels,[16 17 19 20] an unhealthy lifestyle, substance abuse[16] or a combination of these factors. Second, it is possible that temperament or adverse childhood experiences influence both fame status and mortality, implying no direct causal effect of fame itself on mortality. Third, these same factors might increase the likelihood of becoming famous, which in turn elevates mortality risk, suggesting that fame may act as a mediator.[2] Future research should try to disentangle these possibilities by taking factors such as childhood experiences, eating and sleeping habits, stress and drug abuse into account and by looking more closely at different causes of death.

CONCLUSION

The current findings indicate that when put to a highly stringent empirical test, the claim holds that famous musicians face a particularly high mortality risk. It is our hope that the present research may encourage future studies that will uncover this effect. Such knowledge could help identify ways of promoting health and well-being, not only for musicians who are in the public eye but also for the broader population as famous individuals are often role models that shape public perceptions and influence health-related behaviours.

Contributors JH conceived the study, conducted the analyses and drafted the manuscript. MD supervised the project, provided guidance throughout and critically revised the manuscript. CH contributed to statistical analyses, provided methodological advice and critically revised the manuscript. MS provided methodological guidance and critically revised the manuscript. All authors approved the final version of the manuscript and agreed to be accountable for all aspects of the work. MD, as the senior author, is the guarantor and accepts full responsibility for the work, had access to the data and controlled the decision to publish. An AI language model (ChatGPT by OpenAI) was used to support the translation process. The AI was used specifically to assist with translating text from German into English, ensuring clarity, correct grammar and appropriate tone. The reason for using AI was to enhance accuracy and efficiency in translation while maintaining consistency in terminology and style. All AI-generated content was reviewed and, when necessary, edited to ensure quality and appropriateness for the context.

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