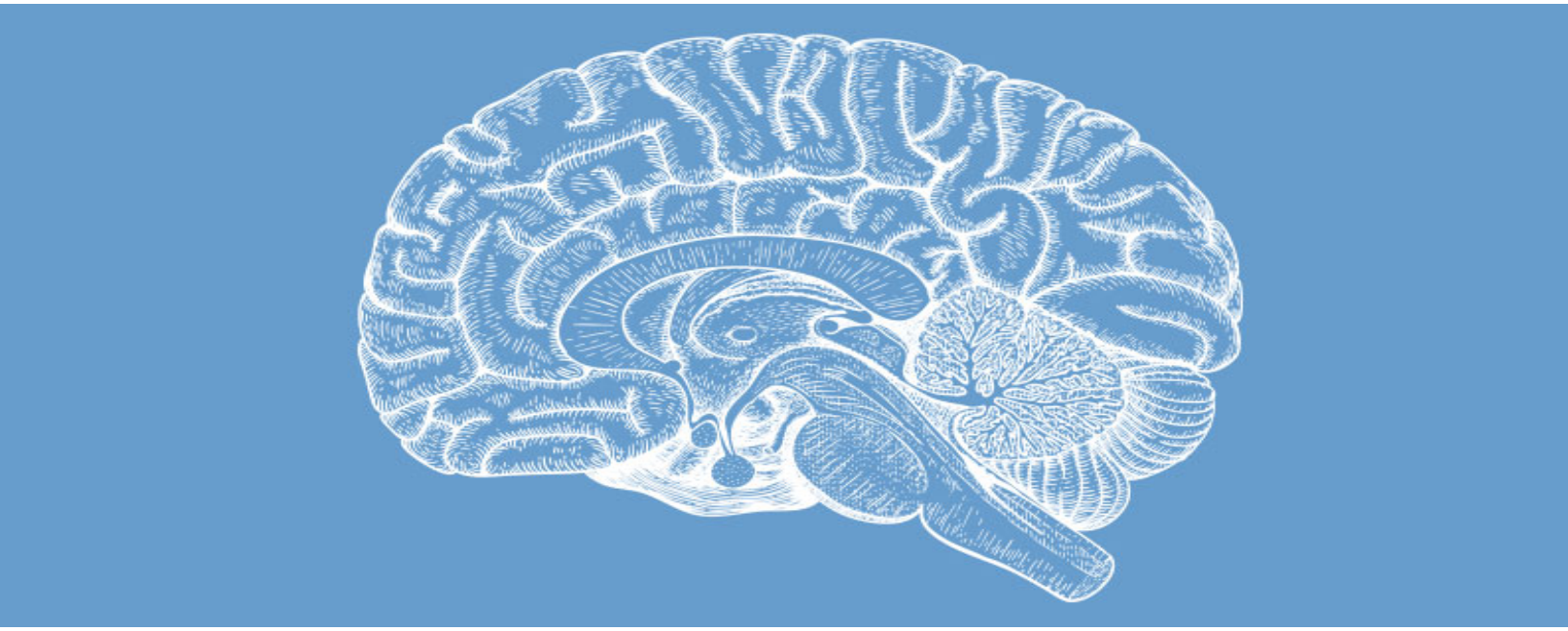

The Psychological Autopsy: What, Who, and Why

Chris G. Caulkins[1,2]
[1]**Strub Caulkins Center for Suicide Research, Woodbury, MN, USA;**
[2]**Century College, White Bear Lake, MN, USA;**

Abstract

More psychological autopsy investigators and suicidologists are needed, as they in relatively short supply. Suicide rates in the United States have been steadily increasing, even when not considering intentional and unintentional misclassification. In spite of some warranted criticism, the psychological autopsy is an underutilized research method that is valuable in understanding the phenomenon and in implementing suicide prevention efforts. The psychological autopsy often satisfies the Frye standard of admissibility in court, but has difficulty meeting the Daubert standard. The psychological autopsy history, process, and future directions are discussed.

The purpose of this paper is to raise awareness of the psychological autopsy (PA) process including its history, who the subject(s) of the study are, why we do it, and what the process entails. I have been board certified as a psychological autopsy investigator (PAI) by the American Association of Suicidology (AAS) since 2013 and have had the opportunity to conduct several in that time. It is my contention that the PA is an underutilized investigative and research tool that many people are unaware exists. It is my hope that this paper will ignite a passion in readers to become suicidologists and PAIs. As of my last inquiry in 2017, there were only 21 PAIs in the U.S. and two in my home state of Minnesota (A. Kulp, personal communication, August 22, 2017). The vast majority of people attending the PAI courses do not go on to earn their certification, which requires a case study to be conducted and submitted to the AAS as part of the final approval process.

The rate of suicide in the U.S. have been steadily increasing for decades with half the states experiencing an increase in suicide rates by 30% since 1999 (Stone et al., 2018). Suicide is the tenth leading cause of death in the U.S. with 44,965 being the official number from the Centers for Disease Control and Prevention (2018). Because of misclassification—intentional and unintentional—the suicidology community believes the actual number is 25-30% greater than the official number (Bakst, Braun, Zucker, Amitai, & Shohat, 2016; Cwik & Tiesmann, 2017; Katz, Bolton, & Sareen, 2016).

The psychological autopsy (PA) is a systematic process used in a death investigation to come to an educated conclusion as to the manner of the death when the manner is in question. When a death is due to the actions of the decedent, the manner is typically either suicide (intentional) or accidental (unintentional). While the PA can be particularly helpful in cases where the manner of death is equivocal or indeterminate, it can also be used when the cause and manner are not in question. In these cases, the PA may provide insight as to why the death occurred—the perfect storm of circumstances. The majority of cases I have research are at the behest of the surviving families with a need to understand their loved one's death.

PA investigators apply knowledge and theories from multiple disciplines including psychology, sociology, biology, epidemiology, and anthropology, to analyze a substantial amount of data and make a qualitative determination of manner of death. The PA is not a replacement for law enforcement or medical examiner (ME) investigations, rather it is a complimentary investigation that draws on their findings and then draws on additional resources and methods.

A PA can be viewed as having four major goals. The first is to provide insight into the circumstances surrounding the death, regardless of intent. This insight may help loved ones of the deceased through the grieving process. The second is to arrive at a conclusion as to the manner of death that is consistent with the evidence. The third objective is to contribute to the body of research on suicide. The last goal is to refine suicide assessment and prevention techniques with a goal to reduce the number suicides.

It is important to note that the process often benefits survivors of loss by allowing greater acceptance of the death, the provision of meaning by helping further research into suicide, and enhancing social connection (Henry & Greenfield, 2009). Negative reactions are uncommon and can be mitigated by the preparation of the PAI. This preparation includes familiarization of resources in the area if the interviewee should find themselves at increased stress levels (p. 22).

While the PA is a well-established investigative and evidentiary tool, it is an evolving medical and social science practice as we in the scientific community broaden our understanding. In one case, I adapted the PA to study a geographic area with a high suicide rate. The question was whether or not suicidality could be detected on a community level (Caulkins, 2014). I call this technique the anthropological biopsy or anthropsy for short. My findings support the notion that suicidality can be detected on a macro-level.

A Brief History

The PA began in 1958 when clinical psychologist and director of the Los Angeles Suicide Prevention Center, Edwin Shneidman, and Norman Farberow and Robert Litman first developed a tool to assist the Los Angeles County medical examiner in death investigations (Botello, Noguchi, Sathyavagiswaran, Weinberger, & Gross, 2013). In a two-year period between 1966 and 1969, Shneidman led the National Suicide Prevention Program within the National Institute of Mental Health, the leading scientific organization dedicated to the study, treatment, and cure of mental illness in the United States. During that time, the number of suicide prevention centers in the U.S. grew from three to 200 and the term suicidology was coined to cover the formal, scientific study of suicide (Shneidman, 2004). Shneidman founded the AAS, which today provides training and certification in the area of suicide study and suicide prevention. The AAS is also a resource for information and research on suicide in the U.S. and internationally. Finally, the AAS provides support, education, and resources to members of the public and those bereaved by suicide (AAS, n.d.). As of 2011, the new structured PA program provides formal credentials awarded by the AAS. Additional information on the AAS and the PA certification process is available at http://www.suicidology.org.

The Psychological Autopsy Process

In describing the process, I must disclose that, while the basic framework of how the PA is conducted is the same between PAIs, how they go about their study may be very different. The process I describe here is my own. My background is eclectic with education in the biologic sciences, social sciences, public health, and interdisciplinary research. This background is reflected in my work. I employ Atlas.ti software to perform qualitative analysis and SPSS if there is any quantitative element requiring a higher level of analytical sophistication. I also record and transcribe interviews. Other PAIs may or may not spend as much time and may not submit their results in a final report that meets the academic quality level of published research. As a serious researcher, who is has been left behind to ponder the suicide deaths of both my wife

and brother, I am dedicated to quality and thoroughness. One of my colleagues so eloquently says that suicidologists who are survivors of loss take a more "rich and meaningful approach" (Caulkins et al., 2017). I recommend you ask many questions of a PAI if you are considering having a PA conducted to ensure the process and rigor is a good fit for your needs.

The PA is complex and requires several hundred hours of work applying multiple disciplines. The depth to which the investigation is able to go, the amount of time it takes, and the confidence of conclusions vary on a case-by-case basis. There are three broad activities conducted in a PA investigation—historical review, interviews, and analysis. I begin with the presupposition that the manner of death is undetermined, even if other authorities have officially declared a manner of death. While we perform an analysis using the metrics gained from empirical research examining the phenomenon of suicide, we understand it is also possible the death was not a suicide. The research serves to rule in or out certain known risk factors.

The historical review examines any available medical and mental health records, police and medical examiner reports, the victim's personal belongings and living quarters, the decedent's internet presence including—browser, and social networking histories—and may also have formal forensic analysis of devices used the by the decedent conducted. I take copious notes while looking at the artifacts of the deceased person's life.

Another very important part of the PA are the semi-structured interviews. Interviews are conducted with a wide variety of people who can give insight into the decedent's life. While an interview subject can be just about anyone close to the decedent, the best subjects tend to be family members, close friends, and co-workers. Because the interview necessarily involves a human subject, important precautions are taken to protect the interviewee and their family/friend's identities during and after the interview—even between those I interview about the same case. My interviews generally take about 90 minutes but have gone longer. A requirement of pro bono work is the granting of permission to allow me to use the case for research and educational purposes. Anonymity is still protected.

Once the investigation is complete, all notes, records, and transcripts of interviews are uploaded into Atlas.ti. After thematic coding and analysis are complete, I write a formal document that may be as many as 40 pages in length. I conduct a thorough literature search and then cite and reference all assertions. I also borrow from the discipline of anthropology and draft a kinship chart (see Figure 1). Once the report is complete, I meet with the person(s) who commissioned the report and review my conclusions with them. Sometimes distance means this is done via Skype, but I prefer in-person.

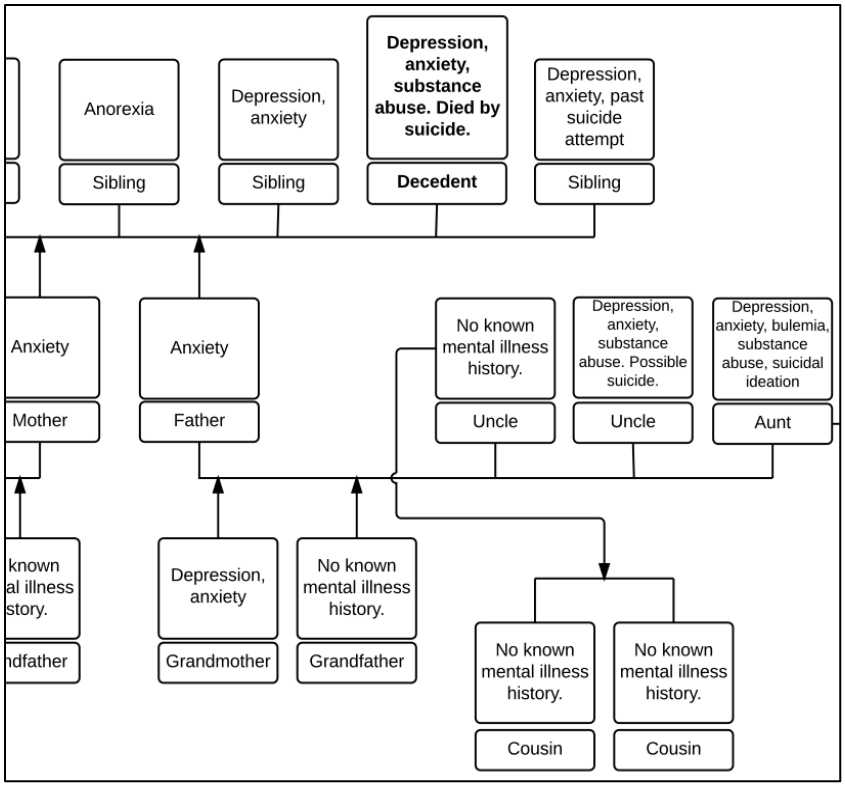

Figure 1. Kinship Chart Based on Mental Illness and Suicidality

Note. Only a portion of this chart is shown to maintain the anonymity of the family.

Research Metrics

The PA process retroactively identifies evidence-based risk factors. Central to this is the mnemonic, IS-PATH-WARM, which prompts investigators to remember suicidal ideation, substance abuse, purposelessness, feeling trapped (in a situation or place), hopelessness, withdrawing from social circles and activities, excessive anger, recklessness, and mood swings (AAS, 2013). Beyond the mnemonic, many other factors are screened for including sleep problems, a history of mental health problems, perfectionism, obsessions with death, genetic history (see Figure 1), and others (AAS, 2013).

The Equivocal Death

Ambiguous, unknown, undecided, uncertain, disputed debatable, unanswered, contentious, and many other terms are synonymous with equivocal. Often equivocal deaths are classified indeterminate, which is one of five manners a can be categories into. It may be helpful to use the acronym NASHI as a memory aid. NASHI stands for natural, accident, suicide, homicide, and indeterminate. Indeterminate is an alternative to undetermined or unknown, which may be what appears on the death certificate. Manner is different from cause, which may be blunt force trauma, asphyxiation, kidney failure, etc.

I will relay the following fictitious death to illustrate an example of an equivocal death. A man goes skydiving and falls fatally to his death, never having deployed his parachute. Without more information, this death could be classified into any of the NASHI manners. The medical examiner (ME) performs an autopsy and can find no evidence of a disease process or medical condition—such as a heart attack resulting in unconsciousness—that could have rendered the man incapable of pulling his chute cord. The pilot and his mechanics look over the plane to see if anything could have resulted in an accident that caused the death—poorly packed chute, stray bolt on the floor causing him to trip and hit his head before falling out of the plane, etc. The ME and law enforcement also look for signs of an accident, but also homicide. Did someone push the man, hit him in the head with a blunt object, etc. In other words, was this death a homicide? Next, the ME and law enforcement look for evidence of suicide—wound patterns, suicide note, statements to witnesses, etc. If the death cannot fit into the NASH part of the acronym, it is often categorized into the indeterminate category. Sometimes the ME will make a declaration of manner depending on their philosophy of practice (Jentzen, 2009). Thus, the PA is a useful method in determining a manner of death that is equivocal—either formally or because the manner was assigned by virtue of a philosophy. The following is a note I made on a PA I conducted several years ago in which I was particularly taken aback by a philosophical bias of an ME.

> The question before us is one of intent. The decedent either intentionally strangled himself in an act of suicide or was an unwitting victim of the "choking game" gone wrong. If it is the latter, the intent was to gain a high from the decreased blood and oxygen flow to the brain, the result would be an accidental death. The medical examiner's (ME) office that handled the case and determined the manner of death as suicide was contacted to see how manner of death is determined in cases where the choking game is a possibility. The ME office responded that "realistically, a single individual couldn't partake in the choking game" and for that reason "we don't think that it's even a viable situation." This demonstrates a clear lack of understanding of the choking game. Loss of consciousness results in 13-18 seconds with the majority of the fatalities being males performing the act alone 96% of the time (Andrew, MacNab, & Russell, 2009).

Forensic Testimony and Evidence

There are two legal standards used to establish the validity and expertise of those testifying in court—the Frye and the Daubert standard. The standard used varies by state, with the Daubert standard requiring a higher threshold of evidence. The PA, and PAI as an expert witness, meet the Frye Standard, but not necessarily the Daubert standard because a known error rate is difficult to determine post-mortem (AAS, 2013).

The Frye standard holds that evidence is admissible if it has "general acceptance" within the scientific community and that methods must be considered valid by those in the applicable discipline or field (Steadman & Konigsberg, 2016). Additionally, the judge does not rule on whether or not evidence is appropriate for submission under the Frye standard, but rather is a point of debate between opposing legal counsel (p. 63).

When the judge makes the decision concerning admissibility the Daubert standard is applied. Criteria to meet the Daubert standard include whether the scientific methodology is relevant, reliable, peer reviewed, has a known error rate, and is replicable (p. 63). As a result, those satisfying the Frye standard would only be required to point out "consistencies between antemortem and postmortem data" rather than back up assertions with odds ratio statistics as required under Daubert (p. 65). Adhering to Frye standards for identification rather than Daubert, would allow in more circumstantial (presumptive) evidence rather than direct (positive) evidence backed up with scrutiny of the scientific method (Wiersema, Love, & Naul, 2016, p.82). It is important to remember that the PA is an expert opinion with scientific value (Young, 1992).

Criticism

In addition to not necessarily satisfying the Daubert standard, the primary criticism of the PA is the use of it for retroactively diagnosing a person with a mental health disorder. Because not all suicidologists or PAIs—like me—are necessarily mental health practitioners, this further complicates the issue because of an absence of clinical experience conducting diagnoses. I do not believe Shneidman developed the tool for retroactive diagnosis. Somewhat contentiously, many in the suicidology community hold up aggregated PA research as evidence that 90% of people who die by suicide have a mental health disorder (Hjemeland, Diesrud, Dyregrov, Mkizek, & Lenaars, 2012). The CDC's latest findings indicate that 54% of those who have suicided had no diagnosis of a mental health disorder (Stone et al., 2018).

Future Directions

I have three things I would like to see the PA used for in the future. Similar to the death investigation procedure since 1994 in Queensland, Australia (Potts, Kõlves, O'Gorman, & De Leo, 2016), I propose that 100% of all suicide, indeterminate, and accidental deaths suspicious for suicide receive a PA.

The second is that the PA is an investigatory method in all cases of law enforcement officer involved shootings (OIS). Researchers reviewing 707 cases of OIS found that 36% of those cases were actually suicide-by-cop (Mohandie, Meloy, & Collins, 2009). The effect of having to use deadly force exacts a heavy toll, with the majority of officer's leaving their profession within five years after use of deadly force (McNally & Solomon, 1999). I see three potentially valuable outcomes, (1) diminished psychological impact on the officer, (2) diffusing

of conflict owing to perception of officer culpability, and (3) diminished liability for law enforcement agencies as long as no acts or omissions contributed to the event unduly.

Last, I recommend continuation of the anthropsy process (Caulkins, 2014). This will enable suicide prevention specialists to take action on cultural issues that underlie high suicide rate areas. The Golden Gate Bridge is one such area that has a strong cultural component to the suicide problem in San Francisco (Caulkins, 2015) that could benefit from such an investigation.

Summary

Suicide is a significant public health problem in the United States that has been steady increasing for a long time (Stone et al, 2018). The PA is a valuable, yet underutilized investigatory and research tool. In spite of the method being in existence since the 1950s, relatively few people credentialed by the AAS to conduct the PA to their established standards. An academically rigorous study incorporates multiple interviews, use of technology, and includes an extensive search of the literature. Done well, the PA can aid in the differentiation of manner of death, provide answers as to the perfect storm of factors that lead to the suicide, benefit the emotional health of those left behind, and inform prevention efforts. With the advent of the formalization of the training by the AAS in 2011, the process carries more legal weight and alleviates—at least in part—one of the primary criticisms of the PA. Employing the PA to diagnose mental health disorders retroactively is a contentious debate among suicidologists, which may portray the role of mental illness in suicide inaccurately (Hjemeland et al., 2012). I recommend that all suicide and deaths suspicious for suicide have a PA conducted, that officer involved shooting incidents all be subjected to the PA, and that we use the framework of the PA to study suicidality on a community level.

References

American Association of Suicidology (n.d.). History of the American Association of Suicidology. Retrieved from http://www.suicidology.org/about-aas/history

American Association of Suicidology. (2013). Psychological autopsy certification program participant manual. Washington, D.C.: Author.

Andrew, T. A., Macnab, A., & Russell, P. (2009). Update on "The Choking Game." *The Journal of Pediatrics*, *155*(6), 777-780.

Bakst, S. S., Braun, T., Zucker, I., Amitai, Z., & Shohat, T. (2016). The accuracy of suicide statistics: are true suicide deaths misclassified? *Social Psychiatry and Psychiatric Epidemiology*, *1*, 115. doi:10.1007/s00127-015-1119-x

Botello, T., Noguchi, T., Sathyavagiswaran, L. Weinberger, L. E., & Gross, B. H. (2013). Evolution of the psychological autopsy: Fifty Years of Experience at the Los Angeles County Chief Medical Examiner-Coroner's Office. *Journal of Forensic Sciences*, *58*(4), 924-926.

Caulkins, C. G. (2015). Bridge over troubled discourse: The influence of the Golden Gate Bridge on community discourse and suicide. *Journal of Aggression, Conflict and Peace Research*, *7*(1), 47-56.

Caulkins, C. G. (2014). *Suicide in the Intermountain West: A syndemic in Park County Wyoming?* (Master's thesis). Retrieved from ProQuest Dissertations and Thesis Database Open. (UMI No. 1528221)

Caulkins, C. G., Hunt, Q., Jahn, D. R., Perusse, C. M., Ridge-Anderson, A., & Stifler, R. (April 2017). Loss survivors turned suicidologists: A panel discussion. In M. R. Nadorff (Chair), *Suicidology at 50: Honoring the past, innovating for the future*. Symposium conducted at the meeting of the American Association of Suicidology, Phoenix, AZ.

Centers for Disease Control and Prevention. (2018). National Center for Health Statistics. Leading causes of death, National and regional, 1999-2016 on CDC WISQARS Online Database. Retrieved from http://www.cdc.gov/injury/wisqars/fatal_injury_reports.html

Cwik, J., & Teismann, T. (2017). Misclassification of Self-Directed Violence. *Clinical Psychology and Psychotherapy*, *24*(3), 677-686. doi:10.1002/cpp.2036

Henry, M. & Greenfield, B. J. (2009). Therapeutic effects of psychological autopsies. *Crisis*, *30*(1), 20-24.

Hjemeland, H., Diesrud, G., Dyregrov, K., Kinizek, B. L., & Leenaars, A. A. (2012). Psychological autopsy studies as diagnostic tools: Are they methodologically flawed? *Death Studies*, *36*(7), 605-626.

Jentzen, J. (2009). *Death investigation in America: Coroners, medical examiners, and the pursuit of medical certainty*. Boston, MA: Harvard University Press.

McNally, V. J., & Solomon, R. M. (1999). The FBI's critical incident stress management program. *FBI Law Enforcement Bulletin*, *68*(2), 20–26.

Mohandie, K., Meloy, J. R., & Collins, P. I. (2009). Suicide by cop among officer-involved shooting cases. *Journal of Forensic Sciences*, *549*(2), 456-462.

Potts, B., Kõlves, K., O'Gorman, J., & De Leo, D. (2016). *Suicide in Queensland: Mortality rates and related data 2011-2013*. Brisbane, Australia: Australian Institute for Suicide Research and Prevention.

Shneidman, E. S. (2004). *Autopsy of a suicidal mind*. New York: Oxford University Press.

Steadman, D. W. & Konigsberg, L. W. (2016). Legal considerations of forensic anthropology casework in the United States. In. D. W. Steadman (Ed.), *Hard evidence: Case studies in forensic anthropology*. (2nd ed.), pp. 63-67. New York, NY: Routledge.

Stone, D., Simon, T., Fowler, K., Kegler, S., Yuan, K., Holland, K., & ... Crosby, A. (2018). Vital Signs: Trends in State Suicide Rates - United States, 1999-2016 and Circumstances Contributing to Suicide - 27 States, 2015. *MMWR. Morbidity and Mortality Weekly Report*, *67*(22), 617-624. doi:10.15585/mmwr.mm6722a1

Wiersema, J., Love, J. C., & Naul, L. G. (2016). The influence of the Daubert guidelines on anthropological methods of scientific identification in the medical examiner setting. In. D. W. Steadman (Ed.), *Hard evidence: Case studies in forensic anthropology*. (2nd ed.), pp. 80-90. New York, NY: Routledge.

Young, T. (1992). Personality assessments in equivocal deaths. *Journal of personality assessment, 58*(2), 430-431.