

BEHIND THE COUNTER:

Findings from the 2022 Oral Contraceptives Access Survey

LEGAL

PERSONAL

FINANCIAL

SOCIAL

LOGISTICAL

TIC

FREE THE PILL. YOUTH COUNCIL

a project of Advocates for Youth



Acknowledgements

This report is authored by Advocates for Youth, specifically Claudia Hui, Angela Maske, Debra Hauser, and Geoff Corey.

Essential support in the design and dissemination of the survey was provided by Victoria Nichols, Steph Synoracki, Jessica Sanchez, Katie Kay, Emily Bridges, Ibis Reproductive Health, and the #FreeThePill Youth Council.

Advocates for Youth partners with youth leaders, adult allies, and youth-serving organizations to advocate for policies and champion programs that recognize young people's rights to honest sexual health information; accessible, confidential, and affordable sexual health services; and the resources and opportunities necessary to create sexual health equity for all youth.

Design and illustration by Arlene Basilio

Content warning: this report includes firsthand accounts and quotes of young people who have experienced barriers to birth control access. These stories reference discrimination, pregnancy scares, abortion, and miscarriage.

Table of Contents

and the second

A Letter from the #FreeThePill Youth Council	
Introduction	5
Methodology	6
Survey Participants	7
Summary of Findings	8
Additional Findings	9
- Access Barriers–Time, Location and Transportation	
- Financial Barriers	
- Barriers Related to Social Stigma from Parents, Guardians, and Healthcare Providers	
Consequences of these Barriers	15
Recommendations	

Dear readers,

All and a start

We are the Advocates for Youth #FreeThePill youth council, a group of young people ages 15-22 advocating for an over-the-counter birth control pill accessible to people of all ages, that's affordable, and covered by insurance. As young people who are directly impacted by barriers to birth control access, this work is incredibly personal and important to us. The purpose of this report is to share findings of the Advocates for Youth 2022 Oral Contraceptives Access Survey and to highlight the numerous barriers that young people in particular face under the current prescription-only system. We believe that sharing stories from young people across the country is critical; we want to emphasize the urgency of the need for an over-the-counter pill.

The unfortunate fact is that for many young people across the country, birth control is simply not accessible when a prescription is required. As you will read in the following report, financial barriers, travel and logistical issues, and social stigma often pose insurmountable challenges for many of us young people. This results in some being unable to access the pill, missing doses, and experiencing pregnancy scares and unintended pregnancies. We also know that access barriers often impact marginalized youth disproportionately.

For too long, young people have been expected to jump through unnecessary hoops in order to get the health care we need. We are capable of making informed and responsible decisions about our health, but we must have access to the resources to do so.

It is long past time to improve access to contraception for young people all over the country with an over-the-counter birth control pill.

Sincerely, The #FreeThePill Youth Council

Yajing, 19	Dyvia, 18	Tanvi, 22	Brooke, 15
Anusha, 19	Maia, 16	Lauren, 20	Sriha, 19
Astro, 17	Mariah, 19	Izzy, 20	
Bex, 19	Beau, 19		

I didn't get on birth control when I wanted to. I wanted to have safe sex but there were so many barriers and it made things difficult.

– Anna, 19, Minnesota

My lack of birth control access resulted in me getting pregnant and then miscarrying. This has affected my mental health a lot and I will never be the same person I was before. Birth control should be much more accessible for everyone.

- Madalyn, 20, North Dakota

Introduction

Birth control pills are an essential part of the full range of sexual and reproductive health care and one of the best-studied medicines on the market today. Birth control pills are available over-the-counter in over 100 countries worldwide, including India, the United Kingdom, Portugal, South Korea, Brazil, and Mexico.¹ However, in the United States, many people continue to face barriers when accessing birth control pills. Although birth control pills prevent countless unintended pregnancies each year, research shows that those without the financial means, insurance coverage, or time needed to schedule and attend an appointment with a healthcare provider are often unable to obtain a prescription for oral contraception.²

Studies also show that the birth control pill is the contraceptive of choice for many teens and young adults. In one study, it was reported that 44% of sexually active teenagers between 15 and 19 choose to use oral contraceptives as their method of contraception.³ Furthermore, among contraceptive users aged 15-44, those 15 to 19 years old used the pill more commonly than those aged 35 or older.⁴ Yet, barriers to accessing a birth control prescription can be especially daunting for teens and young adults, particularly low-income and other marginalized youth.

To better understand the barriers young people in the United States face while trying to access birth control pills, and the consequences they experience when those barriers become insurmountable, Advocates for Youth (Advocates) conducted the 2022 Oral Contraceptives Access Survey Report. The survey was designed to capture young people's experiences under the current prescription-only system and to shed light on the following questions:

1. What factors promote or constrain young people's access to birth control pills in the United States?

2. How do the barriers to accessing birth control pills impact the lives of young people in the United States?

The survey also asked respondents to describe the impact it would have on young people's lives if the birth control pill were to become available over-the-counter without prescription, covered by insurance, and accessible to people of all ages. This report details the findings from the survey and highlights some of the stories respondents shared about their experiences trying to access birth control pills as teens and young adults.

^{1.} Ibis Reproductive Health. (n.d.). Where on Earth? Retrieved from https://freethepill.org/where-on-earth

^{2.} Marshall, S. Alexandra & Driver, Nichola & Allison, Katy. (2020). Attitudes towards contraception: focus groups with Arkansas teenagers and parents. Sex Education. 21. 1-15. 10.1080/14681811.2020.1759526.

^{3.} Kavanaugh, M. L., & Pliskin, E. (2020). Use of contraception among reproductive-aged women in the United States, 2014 and 2016. F&S Reports, 1(2), 83–93. https://doi.org/10.1016/j.xfre.2020.06.006

^{4.} Davtyan, C. (2000). Contraception for adolescents. Western Journal of Medicine, 172(3), 166-171.

Methodology

The 2022 Oral Contraceptives Access Survey Report uses convenience sampling. Advocates recruited participants through social media – specifically via Instagram, Facebook and Twitter–and through an email listserv of the organization's active readers. Partners Power to Decide and Ibis Reproductive Health, shared the survey with their organizational networks as well. Responses were collected from June 30, 2022 through August 9, 2022. Participants did not receive any compensation, monetary or otherwise, for responding to the survey.

The survey instrument was developed after a review of the current literature on over-the-counter access to oral contraceptives, and was informed by researchers at Ibis Reproductive Health. The survey consisted of both close- and open-ended questions. Close-ended questions asked respondents to indicate which challenges, if any, they faced when trying to access birth control pills as a teenager or young adult. Open-ended questions were designed to capture the stories and voices of respondents regarding their experiences obtaining birth control pills as teens and young adults, as well as their thoughts on how over-the-counter access to birth control pills might affect young people's lives.

Advocates obtained explicit consent from all participants surveyed to include their responses and stories in this report.



Survey Participants

A total of 284 individuals responded to the survey. Forty-one of these, however, did not fully complete the survey and as such were not included in this report. As a result, 243 surveys were included in Advocates' 2022 Birth Control Access report representing individuals from **43** states. **Eighty-five percent** of the included sample self-identified as cis-women (85.6%), **6.6%** as non-binary, **2.9%** as cis-men, **1.2%** as transgender, **1.2%** as genderqueer, **1.2%** as questioning or unsure, and **0.8%** as genderfluid. Almost half identified as straight or heterosexual (**47.7%**), **24.3%** as bisexual, **8.2%** as queer, **3.7%** as pansexual, and **2.5%** identified as gay or lesbian.

Among the **243** participants, **83%** reported that they have either previously taken, or are currently taking daily oral contraceptives.





55%

EGA

reported that these barriers prevented them from obtaining birth control pills

OF THAT 55%



shared that they experienced an unintended pregnancy



abortion

Summary of Findings

The vast majority of the 243 respondents (88%) indicated they experienced at least one barrier to obtaining a prescription for oral contraception when they were young. In fact, 75% of all respondents reported experiencing multiple barriers, including logistical, financial, personal, legal, social, and/or cultural factors. On average, participants experienced at least three different barriers while trying to obtain birth control pills.

More than half of all respondents (55%) reported that one or more of these barriers had prevented them as a teen or young adult from obtaining a prescription for birth control pills. (This group will henceforth be referred to in this report as the restricted access cohort).

Almost **57%** of the *restricted access cohort* also reported going off birth control pills because they could not schedule or attend a doctor's appointment in time for a prescription renewal.

For many, missing the beginning of a new birth control pill pack resulted in disruption of their menstrual cycle, a pregnancy scare, and/or an unintended pregnancy.

I knew that if I didn't find time between class and work to get to the pharmacy which was very far away, I would run out of my prescription which would likely throw my cycle off. For me, that often resulted in really rough mood changes. It was really stressful.

- Amy, 18, Oklahoma

In fact, nearly **60%** of the *restricted access cohort* reported experiencing a pregnancy scare, **20%** experienced an unplanned pregnancy and **16%** reported seeking an abortion as a result of not being able to obtain the birth control pills they needed.

Additional Findings

Prior research cites accessibility, affordability, and social stigma as some of the major barriers facing young people when they try to access contraception.^{5,6} Results from Advocates' 2022 Oral Contraceptives Access Survey confirmed prior findings, and shed additional light on the serious consequences these barriers can cause when young people are unable to secure the oral contraception they seek. Because birth control pills are currently only available with a prescription in the United States, the report also reflects on the additional barriers this system creates for young people trying to obtain oral contraception.

The remainder of this report focuses primarily on barriers and experiences culled from respondents who were unable as a teen or young adult to overcome the barriers they faced when trying to obtain a prescription for oral contraception–*the restricted access cohort*. Data from this cohort of 133 people provides valuable insight regarding the multiple and intersecting barriers many young people face when trying to access birth control pills restricted by prescription.

Access Barriers–Time, Location and Transportation

Respondents to the 2022 Oral Contraceptives Access Survey shared that access barriers were major factors that impacted their ability as a teen or young adult to obtain a prescription for birth control pills. Access barriers include: the distance respondents might have to travel for an appointment with a healthcare provider; whether they had to miss school or work to schedule, travel to, or attend an appointment with their healthcare provider; and whether they faced challenges figuring out transportation to get to and from an appointment. Of the full group of survey respondents, **36**% reported they lacked the time to schedule and/or attend an appointment with a clinician to obtain a birth control prescription, and **16**% faced challenges figuring out transportation to attend the appointment.

However, among the restricted access cohort, many more respondents shared that at least once when they were a teen or young adult, issues of transportation or scheduling was one of the reasons that kept them from getting on birth control pills when they wanted to be:





reported challenges finding time to schedule or attend an appointment with a healthcare provider **43**[%] faced transportation challenges getting to and from a doctor's appointment



 Grossman, D., Grindlay, K., Li, R., Potter, J. E., Trussell, J., & Blanchard, K. (2013). Interest in over-the-counter access to oral contraceptives among women in the United States. Contraception, 88(4), 544–552. https://doi.org/10.1016/j.contraception.2013.04.005

^{6.} Baum, S., Burns, B., Davis, L., Yeung, M., Scott, C., Grindlay, K., & Grossman, D. (2016). Perspectives among a Diverse Sample of Women on the Possibility of Obtaining Oral Contraceptives Over the Counter: A Qualitative Study. Women's health issues : official publication of the Jacobs Institute of Women's Health, 26(2), 147–152. https://doi.org/10.1016/j.whi.2015.08.007



Celeste, age 19, shared that she first started looking to get on oral contraceptives when she was 15 years old. She struggled to find time to make an appointment with a doctor because she had a busy schedule that included extracurricular activities. Unfortunately, even when she did finally find the time to make and attend an appointment, her doctor refused to prescribe her birth control pills. Consequently she experienced an unintended pregnancy and had to seek out an abortion.



In addition, **57%** of this cohort reported that at one time or another as a teen or young adult, they went off birth control pills because they could not schedule or attend a doctor's appointment in time for a prescription renewal.

My peers in high school would often ask me for help accessing birth control because many couldn't find transportation to get an exam and pick up the pills downtown. Often I would drive 10-15 times a month to support my friends and people I barely knew to address this huge gap in care.

– Beau, 19, Florida

In addition to transportation issues, some respondents reported having trouble accessing their primary healthcare provider, while others shared that they did not have a regular provider at all.

Of the **243** total respondents, almost one-third (**30%**) indicated that they did not have a regular healthcare provider. Of the restricted access cohort, the percentage of respondents without a regular provider climbed to **41%**.

I am from a military family and I have moved four times in the last five years both within the US and internationally. The requirement to get a prescription from my doctor made it extremely difficult to refill my birth control each time I moved to a different state because the official transfer of paperwork between doctors' offices often took several weeks. This, in turn, caused me to miss several pills and therefore have to deal with the adverse side effects of this disruption.

– Meghan, 20, Colorado

For some who attend college, on-campus student health centers were rarely open at convenient times for students.

When I was 22, I got a job with an outdoor guiding company that required frequent travel. This job didn't provide any health insurance benefits and I was unsure that I would be able to find affordable care while I was traveling for work. Additionally, since I traveled in remote settings with an unpredictable schedule, I did not know where I would be able to access a healthcare provider to prescribe birth control pills. As a result, I decided that birth control pills were no longer a reliable option for me to prevent pregnancy and went off of them.

– Elizabeth, 22, Wisconsin

[I wanted to visit] my **College Health Center when** I first decided to get on birth control... When I arrived, I had to tell the nurse why I wanted birth control and they handed me a pamphlet with the different options before asking me to schedule another appointment after thinking it over. After deciding, I learned that the gynecologist was booked for weeks. In the end, I had to make an appointment at a family practice in order to finally get the pill.

– Tara, 20, Iowa

Financial Barriers

For those without means and/or insurance, the price of obtaining a prescription – including, but not limited to: transportation costs, lost wages while attending the appointment, the cost of the appointment with the healthcare provider, and the price of the pill packets themselves – can be cost-prohibitive.

Nearly 1 in 3 of the 243 total survey respondents mentioned affordability as one of the most challenging barriers to accessing oral contraceptives as a young person. Some respondents discussed high costs associated with monthly prescriptions, while others had to deal with costs related to medical appointments, travel, and child care. Although insurance covers preventive health visits with no cost-sharing under the Affordable Care Act, not every respondent had insurance. In fact, of all survey respondents, almost one-quarter (22%) reported they did not have health insurance, and 27% felt that birth control pills simply cost too much. Of the restricted access cohort, the percentages increased to 35% and 37%, respectively.

Rachel from Michigan shared that she was only 19 when her father unexpectedly passed away. She discovered that her father's passing left her uninsured when she tried to refill her birth control prescription. Consequently, she had to navigate the confusing and lengthy process of applying for Medicaid and was off birth control pills while she waited.

Some survey respondents shared that insurance was an issue for them. For instance, Emily from New Jersey, 23, reported:

"[The pill I used] was only partially covered by my insurance and it cost \$25 per monthly pack. Once I was removed from my parent's insurance, the cost skyrocketed to nearly \$500 without insurance."

– Emily, 23, New Jersey

Alterity

A respondent from California who wished to remain anonymous shared,

"I was lucky in that money wasn't a huge issue since I had a job in high school, but ultimately, going to Planned Parenthood for the prescription each time cost around \$50. It was a lot to try to figure out at 18 since the birth control pill itself costs around \$30 a pack."

Barriers Related to Social Stigma from Parents, Guardians, and Healthcare Providers

Young people have unique needs related to privacy and discretion. While many report speaking with their parents or guardians about contraception, some worry that the adults in their life would be angry or disappointed if they knew they were sexually active. Many prior studies have also discussed this concern. For instance, a 2021 focus group study of Arkansas teenagers' and parents' attitudes toward contraception found that many teenagers felt embarrassed or ashamed accessing contraception at the local health department.⁷ Some were worried to ask for help for fear their parents or guardians would become involved in the process. Furthermore, in a 2018 qualitative study about a new pharmacist-prescribing model, researchers interviewed older teens who noted potential challenges of having a private conversation in a pharmacy environment, and further stressed how under the traditional care model, youth may not be able to obtain contraceptives at all due to parental involvement laws.⁸

Results from Advocates' 2022 survey reflect similar concerns. To be clear, more than **75%** of all survey respondents indicated that judgment from parents was not a factor affecting their ability to obtain birth control pills. And even among the restricted access cohort, **close to half** had discussed their desire to get on birth control pills with a parent or guardian. That said, fear of judgment from parents and healthcare providers was still noted as a common challenge.

Notably, around **63%** of the restricted access cohort – those who ultimately were unable to obtain a prescription – reported they delayed trying to access birth control pills because of fear or anxiety about asking their parents or guardian for help getting the prescription.

Of the restricted access cohort,

63[%] reported they delayed trying to access birth control pills because of fear or anxiety about asking their parents or guardian for help getting the prescription.

^{7.} Marshall, S. Alexandra & Driver, Nichola & Allison, Katy. (2020). Attitudes towards contraception: focus groups with Arkansas teenagers and parents. Sex Education. 21. 1-15. 10.1080/14681811.2020.1759526.

Wilkinson, T.A., Miller, C.W., Rafie, S., Landau, S.C., & Rafie, S. (2018). Older teen attitudes toward birth control access in pharmacies: a qualitative study. Contraception, 97–3, 249-255.

As a teenager, I wanted to go on birth control, but my doctor was extremely judgmental, going so far as to tell me 'teenage girls don't like sex...

I tried to go to Planned Parenthood, but I was afraid my parents would find out. I used condoms and had several very stressful pregnancy scares between the ages of 15 and 19.

– Elizabeth, New Jersey

40% struggled to obtain the pill, because they felt stigmatized by a health care provider

34[%] reported feeling stigmatized or judged by the pharmacist when picking up birth control pills I would not have talked to my parents when I was a teenager for fear that I would get into trouble for being sexually active, even though I was not at that time. I would have never asked a local provider for a script either because my mom would have found out or insurance would have given it away.... It just felt shameful to discuss [these issues] at that time.

- Sarah, Nevada, recounting her experience as a teenager at 14

Other respondents also shared that the fear of being stigmatized led them to make regrettable decisions that they would not have made otherwise, such as lying or skipping school.

It did not go well. I was 16. I wanted to be protected against pregnancy, but I knew that my mom would not be supportive, so I told her that it was because my periods were heavy. I felt bad lying but I knew that there was no other way she would agree.

> - Morgan, 22, Minnesota, recounting a conversation she had with her parent about obtaining birth control pills.

Along with fears of parental disapproval, the fear of being stigmatized from healthcare providers was also noted by many survey respondents.

I needed my parents to use our insurance and bring me to the doctor, but I didn't want my parents to get angry with me for having sex. And lying to them about why I needed birth control was hard for me. So I didn't get on birth control when I wanted to. I wanted to have safe sex but there were so many barriers and it made things difficult.

– Anna, 19, Minnesota

Of the **133** respondents in the restricted access cohort, **40%** shared that they struggled to obtain the pill because they felt stigmatized by a doctor. As a result, many resisted scheduling a doctor's appointment or following through with a scheduled appointment. Additionally, **34%** of this cohort reported feeling stigmatized or judged by the pharmacist when picking up birth control pills.

Consequences of these Barriers

As the aforementioned data shows, obtaining oral contraceptives under the current prescription-only system presents challenges that many young people find overwhelming. Whether these obstacles arise due to financial constraints, social stigma, or logistical challenges, respondents reported disconcerting and stressful consequences when they could not obtain the birth control prescription they needed. Of the **133** respondents who were unable to obtain birth control pills when they needed them, **58%** reported experiencing a pregnancy scare as a result; **45%** reported using emergency contraception because they had sex without using birth control; one-in-five (**20%**) shared that they experienced an unintended pregnancy as a result, and **16%** reported seeking an abortion.



"My lack of birth control access resulted in me getting pregnant and then miscarrying. This has affected my mental health a lot and I will never be the same person I was before. Birth control should be much more accessible for everyone."

– Madalyn, 20, North Dakota

Kenia from Missouri reported that she was only 15 years old when she talked to her doctor about getting birth control prescribed. The doctor required her parent's consent, which she was embarrassed to do. She explained, "I finally told my mom and she agreed. But by the time I started taking the pills, I found out I was already four months pregnant." She further stated that having the pill available over-the-counter would be much easier for young people who do not want to disclose their private sexual life to family members like she had to. "Some of us are busy with work and school, we cannot afford to take a day off to get the pill prescribed."

Recommendations

Birth control pills remain a favored source of contraception for young people and young adults.⁹ Youth who seek birth control services do so for reasons of health or because they want to lower their risk for unintended pregnancy. They should be supported in making decisions about their health and protecting their well-being. Instead, many face obstacles that can be overwhelming. Too often these barriers are insurmountable, resulting in pregnancy scares, unintented pregnancy, and/or abortion.

and the second

To better support young people who seek oral contraception, the United States should make birth control pills available over-the-counter without a prescription. Birth control pills should be low cost, covered by insurance, and accessible to people of all ages. In fact, after weighing the risks and benefits, medical associations, such as the American College of Obstetricians and Gynecologists (ACOG) have concluded that birth control pills should be available over the counter in the United States to people of all ages.^{10,11}

In addition, findings from this survey and other research suggest that young people would benefit greatly from such a shift in access, as they encounter unique barriers to accessing contraceptives that can lead to unintended pregnancy.^{12,13} In one survey of teenagers' attitudes toward moving oral contraceptives over-the-counter without a prescription, 73% of young people ages 14-17 said that they support over-the-counter access to birth control pills, and 61% said they would likely use over-the-counter birth control pills if they were made available.¹⁴

Todd, N., & Black, A. (2020). Contraception for Adolescents. Journal of Clinical Research in Pediatric Endocrinology, 12(Suppl 1), 28–40. https://doi.org/10.4274/jcrpe.galenos.2019.2019.S0003

^{10.} Howard, D. L., Wall, J., & Strickland, J. L. (2013). Physician attitudes toward over the counter availability for oral contraceptives. *Maternal and Child Health Journal*, 17(10), 1737+.

^{11.} Committee on Gynecologic Practice. (2012). Over-the-Counter Access to Hormonal Contraception. Retrieved from https://www.acog.org/-/ media/project/acog/acogorg/clinical/files/committee-opinion/articles/2019/10/over-the-counter-access-to-hormonal-contraception.pdf

^{12.} Hocklong, L. (2003). Access to Adolescent Reproductive Health Services: Financial and Structural Barriers to Care. Perspectives on Sexual and Reproductive Health, 35(3), 4.

^{13.} Grindlay, K., Foster, D. G., & Grossman, D. (2014). Attitudes toward over-the-counter access to oral contraceptives among a sample of abortion clients in the United States. Perspectives on sexual and reproductive health, 46(2), 83–89. https://doi.org/10.1363/46e0714

^{14.} Manski, R., & Kottke, M. (2015). A Survey of Teenagers' Attitudes Toward Moving Oral Contraceptives Over the Counter. Perspectives on Sexual and Reproductive Health, 47(3), 123–129. https://www.jstor.org/stable/48576733

Offering birth control pills over-the-counter would remove many of the costs associated with obtaining a prescription, including lost wages for time spent traveling and attending a visit with a healthcare provider and the cost of the appointment for those not covered by health insurance. Of course, moving birth control pills over-the-counter will benefit young people most if they are low cost and covered by health insurance programs, including Medicaid. State and federal policy makers are encouraged to expand insurance coverage to over-the-counter methods, even without a prescription, to ensure that young people today can access birth control pills easily. A roadmap for doing so can be gleaned from recent experiences making COVID-19 tests available over-the-counter and covered by insurance. In addition, the federal government is currently exploring ways to ensure hearing devices are over-the-counter and covered by public and private insurance.

While some worry that enabling young people to get their birth control pills over-the-counter might undermine parent-child communication about the decision to get on birth control, this report and other research confirm that most young people do speak with at least one parent about wanting contraception.¹⁵ In addition, young people can already obtain other medications over-the-counter, such as Tylenol and aspirin, both of which are less safe than oral contraception.¹¹

An important limitation of this survey is that it was based on a convenience sample of participants recruited through social media and email lists. Therefore, these findings cannot be generalized to the entire US population. However, the findings of this survey offer a snapshot of the challenges that individuals in the US face as young people when attempting to access birth control pills. Further research should be conducted on this topic to help the medical and scientific community gain a better understanding of the barriers to contraceptive access that young people face.

We know from young people themselves that not being able to access contraception leaves them vulnerable. We all have the right to bodily autonomy. Youth deserve access to honest sexual health education and contraception free from access barriers. Once the barriers to obtaining oral contraception are removed, young people who wish to use birth control pills for health or contraceptive reasons, will be better able to do so consistently and correctly.

Contract of

de Looze, M., Constantine, Norman, A., Jerman, P., Vermeulen-Smit, E., & ter Bogt, T. (2015). Parent–Adolescent Sexual Communication and Its Association With Adolescent Sexual Behaviors: A Nationally Representative Analysis in the Netherlands. Journal of Sex Research, 52(3), 257–268. https://doi.org/10.1080/00224499.2013.858307